Peer talk in collaborative writing of primary school students

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A conversation analytic study of student interaction in the context of inquiry learning

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Voor Melle

Iedereen wil de wereld begrijpen. Of je nu zenuwbanen in kaart brengt of de tochtstromen in een kamer. Iedereen is uit op het ontwerpen van een systeem. Maar achter ieder systeem loeren de uitzonderingen.

Wie te scherp ziet, verdwaalt in details. Wie zich alles herinnert, kapseist door het gewicht in zijn hoofd. En: bestaat er wel een systeem waarin alles zijn plaats heeft?

– Bernlef

Citaat ommezijde: Bernlef (2005). *De onzichtbare jongen*. Querido's Uitgeverij BV, Amsterdam, p.128.

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Introduction

1. Introduction

This thesis reports on four related studies that focus on face-to-face peer interaction in collaborative writing events of 8-12 year old students, who are engaged in projects for inquiry learning. The material consists of conversational data of students in middle and upper grades of primary schools in the Netherlands, who were working on their research projects, and conducted a variety of writing activities within that context. For instance: writing in a learning log, taking notes while reading (online) texts, writing down interview questions, creating a mind map, or writing a letter to an expert for information about their research topic. In all cases, the students shared responsibility for the intended written product, and discussed aspects of both the writing process, and the text, as they proceeded through the writing activities. The content of the texts was related to the topics of the small-scale research projects the students worked on, which were very diverse in nature. Examples are: a historical place in the village, the life of a famous athlete, the manufacturing of dresses, and horse-riding. A detailed analysis of the peer talk during these events with the use of Conversation Analysis (henceforth CA) has generated new insights with regard to how students create a written product together (study 1 and 2), and how they share and discuss knowledge and knowing with each other (study 3 and 4). As an introduction to the theoretical and methodological framework of these four studies, the current chapter will first discuss the embeddedness of the collaborative writing events within the sociocultural context of peer learning in classrooms (sub section 1.1), clarifying how collaborative writing and learning are considered from this perspective in my thesis. Sub section 1.2, will then provide detailed information about the context and the data, followed by sub section 1.3 where I will present the main research questions, that were formulated on the basis of an exploration of the conversational data. The method of research will subsequently be clarified in section 1.4, and to conclude, section 1.5 will explicate how this dissertation is structured.

1.1 The sociocultural context of writing together

In this thesis, the interaction of students in the middle and upper grades of primary school is studied, as they are engaged in writing events in the context of projects for inquiry learning. This is done from a sociocultural perspective on learning (Howe, 2010; Littleton & Mercer 2010; Mercer, 2004; Mercer & Howe, 2012), that is grounded in sociocultural theory in which talk is analysed as a social mode of thinking and language is regarded as both a cultural and psychological tool (Vygotsky, 1978). Earlier studies on collaborative writing have been conducted from different methodological approaches and executed

from two main angles: first, how participants create written products together, including a focus on how this affects individual writing proficiencies, and secondly how collaborative writing may stimulate content learning. These lines of research are grounded in knowledge about how individual writers construct texts, and in how writing may evoke processes in which knowledge is generated or transformed. These two cognitive perspectives on writing are obviously intertwined, but focusing on collaborative learning-to-write or on collaborative writing-to-learn has yielded a variety of studies with a focus on one of these viewpoints. In the following paragraph, I will briefly address the cognitive aspects of writing from an individual perspective, in order to provide some theoretical background on key aspects of writing proficiency and on writing and learning, which are relevant for the current thesis. This overview will then function as a -contrasting- background for how the observations in my research were interpreted as situated literacy practices.

From cognitive processes in writing ...

The development of writing proficiency involves young students moving from a natural oral conversationalist to a communicator who can generate shared meaning in the absence of an immediate audience. Vygotsky (1962) already explained that the abstract quality of written language may be a stumbling block for children who are used to oral speech. Writing is speech without an interlocutor, and in written speech, the writers have to create or represent a situation by themselves. Moreover, inner speech is condensed, abbreviated speech, whereas written speech is deployed to its fullest extent, and situations must be explained fully in order to be intelligible. In order to understand how writers are (increasingly) able to actually create a written text, scrutinizing the cognitive processes in writing generated an increasing attention of researchers in the last four decades.

Until the 1980s, writing was understood as a linear process, where thoughts were converted into written language. Flower and Hayes (1980) changed this concept with their cognitive model of writing. Analysing writing processes with the use of thinking-aloud protocols, they concluded that writing is a recursive process, consisting of three cognitive sub-processes: planning, formulating and revising. In addition, they viewed writing as a form of problem solving, and clarified that writing is a complex process in which a writer has to organize various writing processes and, among other things, think about the content, structure and formulation. Furthermore, a writer must also take into account aspects of the task environment: the writing assignment and the intended readership. Bereiter and Scardamalia (1987) built on the cognitive approach to writing and conceptualized writing through the models of *knowledge telling* and *knowledge transforming*. "These labels reflect the idea that the principle difference between mature and immature composing is in how knowledge is brought into the writing process and what happens to knowledge in that process" (Bereiter and Scardamalia, 1987 p.143). The writing of novice, young writers was characterized as *knowledge telling*, meaning that the

writer lists information (or knowledge) and each idea is a cue for the next idea, without room for reflection (list-like writing; Mason & Boscolo, 2000). The writing process of more advanced writers was described as *knowledge transforming*, using a model with a so called *content problem space* and a *rhetorical problem space*, explaining how writing is a form of solving conceptual, metacognitive and linguistic problems. Solving conceptual problems concerns making decisions on content, which may lead the writer to a thinking process in which his ideas change, and likewise, solving linguistic problems means the writer has to apply all sorts of linguistic knowledge, to make decisions on how the ideas will be formulated in written language, concerning for instance spelling and grammar issues and knowledge about writing conventions. During primary school, students become more skilled in writing: "by grade 8, so in the early years of secondary school, children may have recognized the general discourse demands of text production, abandoning early knowledge-telling strategies in favor of more sophisticated executive strategies" (Perfetti & McCutchen, 1987, p.136). Sharples (1996) emphasized the creative aspects of writing and introduced a theoretical framework that characterizes writing as an unstructured activity with no fixed goals or clearly specified and ordered stages, comparable to creative design. Two interlinking and interdependent processes form the basis of this model, being engagement (the generation of creative ideas) and reflection (reviewing, contemplating and planning, which interrupts the conscious chain of association). Vass et al. (2008; 2014) contend that the cyclical process of creative design is essentially affective in nature, based on empirical data that demonstrated the role of emotions at different stages in the creative writing process of primary school students.

By indicating how expert writers solve content problems, which may lead to a growth and change in the understanding, the *knowledge transforming model* (Bereiter and Scardamalia, 1987) has become an authoritative model for explaining the effects of writing on individual learning. The other influential model is the *dual processing model* that was developed by Galbraith (1999; 2009). This model claims that two different kinds of process are involved in effective writing, being first "an explicit problem solving process in which pre-existing ideas are retrieved from episodic memory and evaluated and organized in working memory in order to satisfy the writer's rhetorical goals […]. The second process is an implicit, knowledge-constituting process in which content is synthesized according to the constraints within semantic memory and then transcribed as text" (Baaijen, 2012, p.47). This latter process is regarded as being responsible for the development of the writer's personal understanding during writing. A recent model of Baaijen and Galbraith (2018) describes a knowledge-constituting process which evokes cognitive operations and structures that operate below the level of conscious thought. Over the years, research on writing-to-learn (Klein & Boscolo, 2016), that focuses on content learning from (individual) writing, has made clear that writing in itself can, under profitable conditions, contribute to learning (Klein, et al., 2014). In a recent review study,

Graham et al. (2020) discuss studies on the effects of writing on learning in science, social studies, and mathematics, and the different theoretical positions for how writing about content supports learning, including both cognitive and social-cultural perspectives.

In summary, research on cognitive, individual writing processes during specific writing tasks, has established how writers produce texts in short recursive cycles, what the development from a novice to a more skilled writer entails, and also how writing may lead to development in the writers' understanding. These two perspectives, learning to write on the one hand and writing to learn on the other hand, are also the key angles in research on collaborative writing. Over the past three decades, a significant amount of studies has demonstrated how writing in small groups or dyads can be beneficial for both developing writing proficiency and for content learning (Rojas-Drummond, et al., 2008; Donahue & Lillis, 2014; Klein & Boscolo 2016; Van Steendam, 2016). And whereas studies on cognitive processes of writers use stimulated recall interviews, thinking aloud procedures and, more recently, keystroke logging (Deane et al., 2018; von Koss Torkildsen et al., 2016) and eye-tracking software (Hacker et al., 2017), studies on collaborative writing focus primarily on the interaction between the participants. Co-writing a text evokes the participants to articulate their thinking processes aloud when they are in consultation with each other about the decisions they have to make as writers. This implies that observing the interaction is the most suitable method for gaining better insight into the course of joint writing. In the following paragraphs some key findings from earlier research on collaborative writing will be concisely addressed, as a prelude to the theoretical backgrounds in chapters 2, 3, 4 and 5 of this thesis.

... to collaborative writing as literacy practices

Ethnographical studies aim to understand what members of (social) groups need to know, do, predict and interpret in order to participate in the construction of ongoing events of life within those social groups, and how cultural knowledge is developed by participating (Duff, 2002; Freebody 2003). "Attention to the situated actions of participants within the social and linguistic context of activities is a condition and theoretical lens for a sociocultural understanding of human thinking and learning" (Cekaite, 2009, p.321). From this sociocultural perspective (Vygotsky, 1962), co-constructions of knowledge and meanings are regarded as joint interactional accomplishments (Rojas-Drummond, Littleton, Hernández, & Zúñiga, 2010). As Littleton and Mercer (2010, p.271) put it: "we cannot understand the nature of thinking, learning and development without taking account of the intrinsically historical, social and communicative nature of human life" Consistent with this perspective, Bereiter (2002) states that cognitive development is embedded in cultural practices, and considered to be created by and shared among members of communities, for instance when they are trying to solve a problem together, verbalizing explanations and making decisions on the next course of action. Within these

contexts, each participant's understanding of the topic at issue is enhanced (Wells, 2007), and learning may be understood as changing participation (Melander & Sahlström, 2009). Lave and Wenger (1991) introduced the notion of a *community of practice*, and asserted that a student's learning essentially means moving to full participation as member of these communities.: "Learning, thinking, and knowing are relations among people engaged in activity *in*, *with*, and *arising from* the socially and culturally structured world. This world is itself socially constituted" (Lave, 1991, p.67). A novice learns through verbal interaction practices that belong to such a community, and the participation of a pupil, in which he moves from peripheral to full participation (Lave and Wenger, 1991), is both the means and the outcome of learning (Freebody, 2003). The main idea of *cultural learning* then is, that the inclusion of a novice in a community of practice, is accompanied by his adoption of the verbal practices that characterize that community, and the situations that the novice learns to master (Berenst, 2012). According to Gee (2004), people learn best when their learning is part of a highly motivated engagement with social practices which they value.

Without doubt, a classroom can be considered as a specific community of practice in a specific institutional setting (Drew & Heritage, 1992; Heritage, 2004), in which a student's participation in dialogic practices, for instance in a group discussion, is both the means and the intended outcome, in terms of becoming a skilled practitioner. Street (2013) points to the fact that in educational contexts, the term 'school literacy' is generally used as a term that tends to define what counts as literacy (and simultaneously constructs the lack of 'school literacy' in deficit terms). According to Barton and Hamilton (1998) the notion of *literacy practices* offers a powerful way of conceptualising the link between the activities of reading and writing and the social structures in which they are embedded and which they help shape. "Literacy practices are the general cultural ways of utilising written language which people draw upon in their lives. In the simplest sense literacy practices are what people do with literacy" (Barton and Hamilton,1998, p.7). Following this description, writing practices are to be understood as existing in the relations within groups and communities, rather than as a set of properties residing in individuals. In a classroom setting, the students and their teacher shape the literacy practices, among which the writing practices, as they talk and write together and reflect on how this is done. Graham (2018) contends that writing practices are in essence shaped by a collective history, and simultaneously by the communities in which they take place, the cognitive capabilities and resources of community members who create it, and the interaction between those two.

Sociocultural environments thus influence the choice of writing strategies, since writing expertise grows through the internalization of generally accepted strategies and procedures for addressing writing problems, which are shared within a community of practice (Deane et al., 2018). Rojas-Drummond, et al. (2017) employ the term *dialogic*

literacy, which refers to the interplay between talk, reading and writing. The authors found that 6th-graders' ability to co-construct knowledge and produce a coherent synthesised summary, was highly dependent on their ability to talk and think together. "Dialogic interactions harness the power of language to stimulate and extend students' understanding, thinking and learning" (Rojas-Drummond et al., 2017, p.46), and accordingly writing is an inherently dialogic activity since its processes and products are interwoven and mutually constitutive (Marttunen & Laurinen, 2012). According to Alexander (2008) the interactions within dialogic events are collective, reciprocal, supportive, cumulative and purposeful. A dialogic perspective on learning (Wegerif 2011; Vrikki, et al., 2019), in which the interaction is regarded as both a cultural and a psychological tool, is grounded in the theory of Vygotsky. He perceived dialogue as the intermediary between individual and collective thinking, for instance regarding the development of meanings and scientific concepts (Vygotsky 1962). "According to Vygotsky, [...] knowledge is not internalised directly but by means of mediating psychological tools, especially language. Through this internalisation communicative language is transformed into an individual's 'inner speech' and verbal thinking" (Tynjälä, 2001, p.49).

Joint text construction and writing proficiency

Early research on peer interaction during collaborative writing, focused on revision of texts (McCarthey and McMahon, 1992), and on how writing processes are organized, demonstrating for instance that the text quality increased when college students wrote together instead of individually (O'Donnell, et al., 1985). Also, Daiute (1989) found that third-, fourth-, and fifth-grade students who wrote a narrative together, were engaged in playful talk and elements of critical thinking. Saunders (1989) examined the task-interaction relationship, and distinguished different interactive structures, for instance 'co-publishers', a writing activity in which students work together during the planning-, review- and revision-phases, or 'co-editors' which is a framework in which only text corrections are performed with a peer, and all the other writing activities are performed individually. Students who work together during the entire writing process, were characterized as *co-writers*, which is also the most applicable description of how the children in my dataset are writing together. Co-writers share ownership over the intended written product, and need to negotiate the task of creating the text. Saunders contends that the interaction during the planning phase may be characterized as spontaneous, wide-ranging discussions, whereas the interaction during composing (producing written language) is more restricted: "During collaborative composing, almost all composing is initiated first in conversation and then transcribed onto paper (or computer).

Thus, collaborative composers engage in the process of oral composing; that is, they explore options by verbalizing, listening to, and then deciding among potential words, phrases and sentences for their text" (Saunders, 1989, p.106). Talking about writing may

stimulate a growth in the writing proficiency of students, concerning both the intended written product and the writing process (Camps & Milian, 2000). Milian Gubern (1996) contends that collaborative writing in educational contexts facilitates task complexity, which may be relieved considerably when shared by the participants in the process. "Collaborative writing, apart from the specific control during the task, may enhance metacognitive activity in the writers' context, helping each participant to explore, build or rearrange her own declarative or procedural knowledge in a sort of reflecting partnership. Knowledge is made explicit when discussed […]" (Milian Gubern,1996, p.375). Dale (1994) studied the discourse of small groups of 9th graders working together on writing tasks, and established that the level of cognitive conflict, the nature of the social interactions and the amount and kinds of engagement during the writing process were the main factors for success. "Engagement is critical to effective coauthoring. To be successful, students must keep talking and responding to each other. Their coauthoring should be a conversation, one comment tagging onto another" (Dale 1994, p.342). From the context of research on second language learning, it was found that collaborative writing is favorable for the development of writing proficiency (Fernández Dobao 2012; Guttiérrez 2016; Storch 2005; Wigglesworth & Storch 2005). Furthermore, research on collaborative writing has shown that the participants may learn from each other's writing and regulation processes, that critical reflection and a heightened sense of audience awareness is encouraged (Nykopp, Marttunen & Laurinen, 2014; Van Steendam, 2016), and that (under certain conditions) text quality may improve when students work together at specific points in the writing process, for instance providing peer feedback or writing with peer response (Arvaja et al., 2000; Bouwer & Koster, 2016; Hoogeveen & Van Gelderen, 2018; Van Weijen and Jansen, 2018; Wigglesworth, & Storch, 2012).

Collaborative writing and content learning

From the sociocultural perspective on writing-to-learn, the effects of collaborative writing on learning are studied in view of social, institutional and cultural factors in joint knowledge building (Rojas-Drummond et al., 2008, 2010, 2017; Vass et al., 2008). According to Tynjälä (2001), using collaborative writing as a learning tool has been argued for on at least two different theoretical bases. First, on the basis of the concept of socio-cognitive conflict (Piaget, 1963), which refers to the mechanism through which an individual notices inconsistency between his own ideas and that of others, leading to reflection and conceptual change. Second, on the basis of the Vygotskian view of learning as a basically social activity. Rojas-Drummond, et al. (2008) have demonstrated how writing together can evoke different processes of collective creativity, brainstorming and intersubjectivity, and Rojas-Drummond, et al. (2017) found that 6th-graders' ability to co-construct knowledge and produce a coherent synthesised summary, was highly dependent on their ability to talk and think together. According to Rivard and Straw

(2000), talk is important for sharing, clarifying and distributing knowledge, and writing may help the development of more structured and coherent ideas, as the writers move to higher-order and more complex cognitive processes (Chen, 2011). Drawing on his research findings of collaboratively writing fifth grade students, Klein (2014) suggested that topic knowledge emerged from the interaction between writers when writing together, and that *extending* on ideas, in which one student uttered a position and another student immediately elaborated on it, occurred most frequently. A recent experimental, qualitative study by Rojas-Drummond, et al. (2020) analysed the interplay between dialogic interactions, co-regulation and the appropriation of text composition abilities in Mexican primary school children. Linked chains of interactions were categorized in terms of *dialogic communicative acts*, organized in eight clusters: *inviting or reasoning, making reasoning explicit, positioning and coordination, build on ideas, connect, express or invite ideas, reflect on dialogue or activity*, and *guide direction of dialogue or activity*. The results substantiate the key role of dialogic interactions and co-regulatory processes among peers, in becoming an expert writer (Bereiter and Scardamalia, 1987), and show how writing together may evoke processes of content learning. Components of writing tasks (in science education) that are found to be profitable for learning, are meaning-making writing tasks, interactive writing processes, clear writing expectations and calling on metacognition (Gere et al., 2019).

Perspective of the current research

Taken together, collaborative writing is primarily a social event, in which the joint construction of a text is accomplished in the course of the interaction, and previous research has demonstrated how collaborative writing may be beneficial for both writing proficiency and content learning. The reported studies on collaborative writing were conducted with participants of different ages and various methods of research were applied, in particular from the line of Sociocultural Discourse analysis (Mercer, 2004). To gain a deeper understanding of how students organize the interaction when creating one written text together and how joint writing activities may evoke processes of content learning, a more fine-grained analysis of the peer talk is valuable. An inductive perspective, describing the actions of interlocutors and collective procedures of social order (Cekaite, 2020), may lead to a more profound understanding of how the writing is accomplished. The method of Conversation Analysis (Ten Have, 2007) provides the tools for such a qualitative, inductive analysis, since this method is concerned with how participants organize their talk and focuses on what they make relevant to each other and thus observable for the analyst. Analysing the conversational practices of collaboratively writing students when working on their own project for inquiry learning, will shed more light on how students interactionally create one written product together within this specific context, and how aspects of both the writing process and of joint knowledge

building, manifest in the peer talk. Before providing an outline of the methodological choices and steps for this PhD research in section 1.4, I will first describe the context and data (section 1.2), and specify the main questions for the four studies (section 1.3).

1.2 Context and data

The data for my research consist of video recordings of the interaction of students in grades 2-6, who are writing together in the context of projects for inquiry-based learning (Bereiter, 2002; Littleton & Kerawalla, 2012). The age of the students is referred to as 8-12 years old, which can be regarded as the mean age of children in these grades (in actual fact, the age may range from 7 to 12,5 years old, so the indication 8-12 has been utilized as an indication of the overall average age). These small scale inquiry learning-projects were conducted in the context of a larger research project (2012-2015) entitled *Co-operation and Language Proficiency* (Berenst, 2011), performed by the Center for Discourse and Learning of NHL Stenden University of Applied Sciences (Leeuwarden, The Netherlands). The project was financed by the National Board of Practice-Oriented Research SIA (SIA Board; project number PRO-3-29, 2012), which is part of the Netherlands Organisation for Scientific Research (NWO). In this 4-year research project, teachers of seven primary schools implemented five classroom projects for inquiry learning, that were organized according to the principles of Educational Design Research (Collins, Joseph, & Bielaczyc, 2004; Plomp & Nieveen, 2009). The main aim was to establish conditions that enhance the quality of peer talk, in terms of joint knowledge building (in particular joint problem solving, see Hiddink, 2019) and language proficiency, including collaborative reading and collaborative writing (this dissertation). A pilot was conducted in 2012 (one school) and the other four main projects in 2013 and 2014 (six schools, of which the data for my research were drawn).

The schools that participated in the main research project, were mainly situated in rural areas in Frisia (Fryslân), a bilingual province in the north of The Netherlands, under the organizational control of three different school boards. The choice of these specific schools was motivated by the fact that the teachers all had educational questions concerning language use and learning, and were interested to implement forms of inquiry learning in their teaching. Additionally, in the rural areas of Frisia, educational questions concerning group size and aspects of cooperative (language) learning, are a relevant issue in education as well. Some of the small schools involved are so small (around 40 children) that three or even more year groups are brought together in one classroom, for instance with a combination of children from grades 4, 5 and 6. Besides the four small village schools, two larger schools in urban areas participated in the research project. Overall, the participating schools formed a representative assortment of the schools in

this region of the Netherlands. Moreover, the variation in both small village schools and larger urban schools, ensured the comparability with the average schools in the rest of the country, in terms of composition of the groups and the teachers involved. Teachers from two schools had participated in a prior research project on inquiry-based learning activities, focusing on different participation frameworks in whole class, teacher-student interaction (see Walsweer, 2015).

Projects for inquiry learning

In the multi-year project, all students worked on the same research theme for about three weeks, in two periods each year. In Kindergarten and in grade 1, the teachers applied a story line approach (Frame, 2006), in which joint problem solving was the key activity (see Hiddink 2019, for a detailed description and discussion of the problem-solving interactions of preschool children). Students in the middle and upper grades, worked in peer groups (two or more, up to five children) on small-scale projects on their own research questions within a common main theme (Pulles et al., 2014). The overarching themes were: *Clothing*, *Friesland then and now*, *Festivities, Sports and games*, and *Machines and appliances*. The last two themes were linked to the Dutch Children's Book Weeks, that are held in October. The main themes and the overall procedure of the research projects were described as project-formats, that the research team provided to the schools in the form of physical ring binders (Herder, et al., 2013; Walsweer, et al., 2012; Walsweer, et al., 2013). These binders consisted of background information for each theme, suggestions for further reading, and a practical guideline to enable the students to conduct their own research project in five phases: orientation, planning, execution, presentation, and evaluation. However, the actual substantive interpretation of the research projects by the children themselves was left open as much as possible, both concerning the content (apart from the overarching theme) and the procedural steps. For instance: the phase of 'executing the research' aimed at the collection of information, but the ways in which this was done, was not in any way described or prescribed, apart from general suggestions. Teachers therefore had the freedom to encourage children to search for their own research questions and answers within the framework of the given theme. This is not only motivating (a fundamental quality of educational contexts to offer the grounds for lifelong learning), but also leads to real-life problem solving (Bereiter, 2002) and a focus on functional literacy.

Functional literacy can be defined broadly "to include the competent uses of written language to carry out diverse meaningful social and communicative activities in a variety of cultural contexts" (Rojas-Drummond et al., 2008, p.180). Moreover, these contexts ensure that students are engaged with real-life, authentic questions and knowledge. This is important, since "the major difference between real-life thinking and the contrived thinking tasks that occupy much of schooling (as well as much of the experimental

research on thinking) is in the role of world knowledge" (Bereiter, 2002, p.350). In accordance with the open-ended design of the projects for inquiry learning, the students were not instructed to write specific texts or use writing (e.g. taking notes) in their own project, with the exception of the learning log that was provided as a tool to monitor the stepwise research process. Rojas-Drummond et al. (2008) point to the importance of students having an open and exploratory orientation towards their joint activities, involving shared commitment and engagement in verbally explicit forms of reasoning in talk. Besides information for every step in this process, the binders also contained didactic suggestions for teachers, for example for guiding group work and for conducting an inviting whole-class conversation in the orientation phase of the research projects, as well as instruction cards ('helping cards') for the students, for example for searching information on the internet or for writing a formal letter.

The schools carried out four different projects, two in each school year during two or three weeks, and the project formats for the different themes were each time improved, in consultation with the teachers. In order to do so, selections of the video recordings of groups of students working together, were discussed with the individual teachers after each project. These reflective conversations, with additional use of journals that were kept by the teacher during the projects, focused on both the organizational aspects of the recent project, and (with use of the video data) on specific aspects of the peer talk, for instance while creating one written product together. The key question was how the conditions for peer talk within the context of inquiry learning could be optimized. In some cases these reflections resulted in small scale interventions, aiming at professionalization of teachers on aspects of collaborative writing and reading in content areas. Between project 2 and 3 (2013) and between project 3 and 4 (2014) extra data was collected in grades 2-6, during these additional activities. This has resulted in extra video recordings of collaborative (reading and) writing activities in which students were working on questions they had formulated on topics like sluices, earth quakes due to gas drilling, or king Louis XIV, which have been included in my dataset.

The repeated process of developing, putting into practice, reflecting and improving the material, was based on the working method of Educational Design Research (Collins, et al., 2004; Plomp & Nieveen, 2009). For consistency in the approach, each school was assigned its own researcher, who guided and coached the school during the years of the overall project. Besides the individual, school specific consultations for professionalization and optimizing of the project formats for inquiry learning, two network meetings with all participating schools were organized each school year. In these meetings, the researchers from the Centre of Discourse and Learning provided updates on the research findings, and the teachers of the different schools were given an extensive opportunity to share experiences and learn from each other.

Data collection

The video recordings were made with a digital camera on a tripod, in some cases equipped with a small table microphone, to make more accurate audio recordings of the interaction and diminish background noises as efficiently as possible. The recordings were made by researchers or student-assistants, who made individual appointments with teachers during the project periods. Generally, the schools scheduled specific moments in the week, for instance three mornings or afternoons each week, to work on the projects. For this thesis, all video recordings of writing events were collected. A *writing event* is defined, following the description of speech events from an ethnographic perspective on communication (Hymes, 1972; Freebody 2003), as a series of goal-oriented communicative actions, to create one written product together. A writing event holds different *writing activities*, for instance generating new ideas, writing down a new word on a mind map, or reviewing a written sentence.

Since the occurrence of writing activities was dependent on then and there choices of the students, only a part of all video data held recordings of collaborative writing events. The total time of the recordings in the overall project on *Cooperative learning and Language proficiency* in all grades (from Kindergarten to grade 6), was around 450 hours. The recordings in which students from middle and upper grades were writing together, that were selected for this thesis, generated a dataset with a total time of 7 hours and 34 minutes. The writing events varied from 1.27 minutes to (an exceptional) 52.26 minutes, with an average of 10.39 minutes. In most events, written products were created using pen and paper, and in some cases students used a word processor or presentation program on a desktop computer: for writing notes, a report and for creating a PowerPoint presentation (see for more detailed information the following chapters). In the first and second study, which are represented in chapters 2 and 3 of this dissertation, a slightly different dataset was used than the dataset for the third and fourth study, due to the fact that when the first analyses were conducted, not all video data was yet collected and/or transcribed. For the second study, about reflective practices, I have chosen to only include data of students who were writing with pen and paper, to guarantee the comparability of the writing together activities.

Writing activities

When writing a text in the course of the different projects for inquiry learning, the small groups of students worked together throughout the entire writing process and shared responsibility for the written product. As mentioned in the above paragraph, the writing activities in the context of inquiry learning were primarily dependent on choices of the peer groups. Moreover, the students were writing without specific instructions or guidance of the teachers or specific materials, with the exception of cases in which students wrote a formal letter. The students then used an instruction card containing

basic information about the conventions and structure of a letter. Furthermore, we have introduced learning logs in the projects, so at specific moments in the group work, the students were invited to write down information. Table 1 provides an overview of the different writing activities that the students have utilized, categorized in terms of the intended written products.

Table 1. Overview types of written products in dataset

Written products	Main activity	Examples
Plan of action	Articulating research questions in learning log	Students were encouraged to formulate a main research question (e.g. *What was Eise Eisinga's life like?*) and sub questions (e.g. *When was he born? What was his profession? Did he have a family? Did it yield anything?).* These questions were written down in a learning log.
Daily reflection	Reflecting on activities or progress in learning log	After each working session, the students were invited to write down what they had learned (e.g. *the closure dyke was designed by Lely*), and what they have done (e.g. *searched for information on the internet*).
Mind map	Exploring a new research topic	One way to explore a research topic, as concerns what the group members know already about the topic, was creating a mind map. Students then wrote the main theme in the middle of a (big) sheet of paper, after which they wrote down as many ideas as possible surrounding this key word.
List of questions	Formulating questions for an interview	To collect information in order to find answers to the research questions, some groups decided to interview an expert on the topic. In preparation for the interview, the students generated and wrote down the questions together.
Letter	Writing a letter to collect information	Another method of data collection for the students, was writing to experts with a request for information. The main activity then focused on formulating questions and applying writing conventions.
Notes	Taking notes while reading (online) source texts	When gathering information for textual resources, like text books or information on the internet, the students were taking notes. In cases of physical reading material, these notes were hand written in a notebook. When working on a computer, the notes were generally made in a Word document, in which students sometimes copy-pasted relevant information.

Table 1. Continued.

Written products	Main activity	Examples
Story	Writing a story about research findings	In the context of the project theme about local history (*Friesland now and then*), some groups of students have written a narrative about the historical information they found. For instance about the oldest house in town.
Report	Writing an informational text about findings	In some cases, students wrote a short research report about their findings. This was done with use of a computer.
Poster	Writing short texts or captions at pictures	When students were presenting the results of their research project with use of a poster, short texts and captions at pictures were written down.
PowerPoint	Writing short texts in a presentation	When students created a PowerPoint presentation, for instance a presentation about the main findings or a quiz for class mates, short sentences or single words were typed.

As this overview demonstrates, the students performed a variety of writing activities, embedded in the context of their small-scale research projects. Throughout the projects, the students used writing at different moments and with different goals, which can be characterized relative to the inquiry learning process of the peer groups, that was conducted in five steps: orientation, planning, execution, presentation and evaluation. The evaluation of the projects was always done orally in whole class, teacher led interaction, so no video data of collaborative writing events was collected in that concluding phase. All writing was utilized to support the different (procedural) steps in the research project of the peer group, but differed primarily in the absence or presence of an external readership, and in the amount of the required text (e.g. the necessity to write down loose words and sentences or to produce a coherent, well-structured text). Overlooking the text types the students have written, the different purposes of the writing activities can be described as follows. First of all, writing functioned as a means to record new found information (e.g. taking notes), generated ideas (e.g. a mind map or interview questions to prepare for data collection) or the progresses of a working session (in the learning log), secondly the students employed writing as a tool to collect data (e.g. a letter to an expert requesting for information about the topic) and thirdly as an instrument to present to others the outcomes of the research project (e.g. a poster or a PowerPoint presentation). Embedding writing activities in authentic, functional contexts is important, since students' participation in literacy practices (Barton & Hamilton, 1998) shapes how they conceptualize writing (Graham, 2018).

Starting from my main interest in terms of how collaborative writing and learning are brought into being within the context of inquiry learning, a first exploration of the data

drew attention to specific interactional phenomena, which then led to the formulation of four guiding questions for my PhD research.

1.3 Research questions

Starting from the context outlined above, the aim of the research described in this thesis was to gain more detailed insight into the interactional aspects of collaboratively writing students (aged 8-12 years old), in the context of inquiry learning projects. A close analysis of the peer talk has provided a more detailed insight into the writing practices and aspects of joint knowledge building, within this context. As concerns the writing together process, the first interesting phenomenon that occurred from the data, was closely connected to the recursive process of writing, being the occurrence of proposals, and more specifically how the proffering and handling of proposals in the peer groups were done. Generally, the different writing activities, for instance generating new ideas or making decisions about the use of specific words or sentences in the text, were set in motion by a proposal. This aspect of the peer talk, was selected as a first phenomenon concerning the joint writing process, and the question was formulated as follows:

> *How do students proffer and handle proposals to take shared decisions when producing one written text together?*

A second observation, that arose from the first analysis, was the occurrence of utterances that displayed evaluative comments on the choices the students were making together, regarding the intended written product. I considered this to be an interesting phenomenon, given both the diversity of the writing activities the students were engaged in, and the fact that these utterances were done in the context of writing events in which no teachers were involved. A more detailed analysis of how these reflective utterances surface in the peer talk, may show which aspects of the writing are made relevant by 8-12 years old who are autonomously, without teacher guidance, creating a written product together. Taking this observation as a starting point, the research question was:

> *How do reflective practices regarding both text content and linguistic issues occur and function in collaborative writing?*

When exploring the data for phenomena that would enhance our understanding of processes of joint knowledge building in peer talk, two specific phenomena were particularly noticeable. First of all, the basic notion that students have to explicate or share their knowledge with each other during the writing event, to be able to discuss the content of the (intended) text. I noticed that the students displayed their knowledge at different moments during the writing together, and an interesting question then is how

(and why) students are triggered to show what they know, at that specific point in the interaction. I have taken this as a key phenomenon to study in more detail, which was the ground for the third study, that attempted to answer this question:

> *Which sequential contexts make it relevant for the students to share their knowledge with their peers?*

Following from this analysis, I noticed that the students used the epistemic verb 'to know' in diverse contexts and at different moments in the writing and thinking together process. For instance the use of 'I know' was regularly observed, both in initiating positions, for as the first words of a sentence in which knowledge was displayed, and also in responsive positions, for instance when another participant displayed knowledge. This evoked the question how utterances with the use of 'know' were done in these trajectories of peer talk. This observation has led to the final research questions, being:

> *What is the conversational function of utterances with 'I know', 'you know' and 'we know' in the context of dialogic writing?*

In the next section, I will explicate how answers to these four research questions were obtained, with use of Conversation Analysis.

1.4 Method of analysis

The method of analysis for this research is (applied) Conversation Analysis (Antaki, 2011; Ten Have, 2007). Conversation Analysis (henceforth CA) can be considered as a branch of ethnomethodology and defined as the study on how social action is brought about through the close analysis of talk, that is collected with use of video recordings of naturally occurring talk. "Ethnomethodological video-based approaches rely rigorously on several procedural steps pertaining to recording, transcription, and detailed analysis of locally situated and endogenous social order achieved through members' social actions" (Cekaite, 2020, p.84). According to Gardner (2019), CA researchers into classrooms have developed a number of approaches that have studied learning as a social and interactional phenomenon (mainly as concerns teacher-student interaction). Huth (2011) contends that over the past decade, CA-informed studies have contributed to our understanding of the language classroom as a context in which teachers and students collaboratively construct a variety of social worlds and negotiate their identities. These studies have also contributed to our understanding of the role of interaction in educational contexts.

The basic principle of CA is "the observation that the meaning of an utterance is established in the course of the interaction following the utterance" (Koole & Elbers, 2014, p60). This implies that CA is primarily concerned with what participants make observable

for each other: "sequences are organized around the participants' assumptions about the goal directed, purposive character of one another's conduct" (Enfield and Sidnell 2017, p.531). Approaching conversational data from this emic orientation (Gosen & Koole, 2017), means that data are not approached with a set of (theoretically motivated) assumptions concerning the relevance of characteristics of the setting and/ or the participants' assumed roles. Instead, the analysis consists of a micro-analysis of the ways in which the participants organize their interaction and accomplish various social actions. This implies that the research presented in this thesis is in essence qualitative, focusing on how collaborative writing and learning are brought into being, through the unfolding sequences of talk-in-interaction. In other words, this analysis may show that and how learners are actually 'doing' learning (Huth, 2011) and 'doing' writing, through talk. To answer my research questions, I have conducted a data-driven, inductive approach in four collection studies (Clift & Raymond, 2018; Mazeland, 2006; Sidnell, 2013) following the steps as outlined below.

First, all video data were transcribed. Transcripts within CA research represent a detailed and accessible version of the data (Lester & O'Reilly, 2019), and the transcription system that was used for all studies is based on Jefferson's work (1984; 2004), which utilizes different symbols to represent both the verbal and nonverbal actions of the participants. The transcripts thus accurately represent not only *what* is said, but also *how* things are said, and accordingly provide the opportunity to analyse the co-construction of reality through talk-in-interaction. The transcripts were anonymized as concerns information about specific schools and groups and names of the students. As a next step, I conducted a first, rough exploration of my data, to find which features of the peer talk were particularly manifest, and accordingly determined a key phenomenon for each study (see the previous sub section). A phenomenon can be characterized concisely as the use of specific words to achieve a locally relevant outcome, and is noticed as distinct behaviour in social interaction (Sidnell, 2013).

The studied phenomena in my research were different practices and actions in the observed talk-in-interaction. In this thesis, the notion *practice* refers to the verbal, vocal, bodily, or material resources that form and accomplish an action, and *actions* are what participants do in interaction (e.g. requesting, inviting, proposing, correcting). For a practice to be effective, "a recipient must be able not only to recognize what action a practice is meant to accomplish, but also to check that his/her understanding of it is correct, or at least sufficient" (Sidnell, 2013, p.78-79). With use of Atlas-ti, software for qualitative analysis (ATLAS.ti Scientific Software Development GmbH), I collected all instances in the data holding the target phenomenon, and created collections (Clift & Raymond, 2018) of practices. The collections formed the point of departure for a more detailed analysis, in terms of, for instance, actions (Sidnell, 2013), sequential placement (Schegloff, 2007a), the uptake (Enfield & Sidnell, 2017), or linguistic constructions (Couper-

Kuhlen, 2014). And finally, by focusing on the generalization of cumulative series of single case analyses (Mazeland, 2006), I was able to generate in depth insight into the varieties of how a phenomenon was manifested in the data. More detailed information about the specific methodological steps and choices for each sub study is provided in the method sections of chapters 2, 3, 4 and 5.

1.5 Outline of this thesis

This thesis reports on the four studies that were conducted on data of collaboratively writing children in the context of inquiry learning. The first two studies (chapters 2 and 3) focus on how students produce one written product together, and the second two studies (chapters 4 and 5) on aspects of sharing and discussing knowledge and knowing of participants.

Chapter 2 shows the nature and function of proposals in the collaborative writing events. Five main targets of proposals were identified: content, procedure, translation, text structure and layout. Furthermore, proposals are designed in different declarative and interrogative constructions, and the objective of a proposal appears are related to both the syntactical design, and the ways in which participants respond to proposals.

Chapter 3 reports on two main reflective practices of students when writing together. First, students reflect on appropriateness, in terms of redundancy, relevance and style, when accounting for the rejection of a proposal. Second, students reflect on correctness of spelling, punctuation and grammar, which becomes observable in recruitments, instructions and corrections.

Chapter 4 focuses on how students share knowledge with each other. Epistemic displays are produced as accounts, responses to a request for information, other-corrections, and with reference to the propositional content of a previous epistemic display, as disagreements, and expansions. The occurrence of epistemic displays is related to specific aspects of the writing activity.

Chapter 5 describes how students explicitly orient to knowing of oneself and others within the peer group. The conversational functions of assertions holding 'I know', 'you know' and 'we know', display how students position themselves as knowledgeable, to claim equal epistemic access, and to indicate shared knowledge with other participants.

Finally, chapter 6, General discussion, will start with a summary of the four studies represented in the previous chapters, after which methodological issues and theoretical implications are discussed. To conclude, suggestions for educational practice will be outlined, in connection with recommendations for further research.

Practical notes

Chapters 2, 3 and 4 have already been published in international peer reviewed journals. Complete bibliographical information for these publications will be provided at the title pages of each chapter. Chapter 5 will be published in Classroom Discourse. For reasons of consistency in this book, the first two papers (chapters 2 and 3) have been slightly modified, particularly concerning the presentation of the transcripts. Minor spelling and other linguistic errors in the published articles have been corrected for this dissertation.

It goes without saying that wherever the student is generally referred to as 'he' and 'him', it also means 'she' and 'her'.

2

Nature and function of proposals

This chapter constitutes a slightly modified version of:
Herder, A., Berenst, J., De Glopper, K., & Koole, T. (2018). Nature and function of proposals in collaborative writing of primary school students. *Linguistics and Education*, 46, 1-11. doi:10.1016/j.linged.2018.04.005

Abstract

The nature and function of proposals in collaborative writing of primary school students was studied from a sociocultural, interactional perspective, using data from 33 writing events in the context of inquiry learning. Five main targets of proposals were identified: content, procedure, translation, text structure and layout. We demonstrate how proposals are designed in different declarative and interrogative constructions. The objective of a proposal appears to be related to both the syntactical design, and the ways in which participants respond to proposals. Proposals for content and translation generate extensive discourse, in contrast to procedural proposals. Writing down the agreed words or sentences occurs in various sequential positions and consequently performs a different function in the joint construction of text. The results enhance our understanding of how primary school students collaboratively write texts.

2. Nature and function of proposals

2.1 Introduction

According to Rojas-Drummond, et al. (2010), writing is a sociocultural process, with learning taking place in specific cultural contexts and institutional settings. From a sociocultural point of view, education and cognitive development are considered as cultural processes, whereby knowledge and meanings are 'co-constructed' in the classroom, as joint interactional accomplishments, that cannot be separated from the cultural practices of a community (Tynjälä, Mason, & Lonka, 2001), that are shaped by cultural and historical factors (Littleton & Mercer, 2010). Analysing peer interaction of primary school students (aged 8 to 12 years old) who are writing together, may consequently contribute to understanding how students participate in this learning process. "Ethnographic observations involve an approach that focuses on understanding what members need to know, do, predict and interpret in order to participate in the construction of ongoing events of life within a social group, through which cultural knowledge is developed" (Freebody 2003, p.76).

Collaborative writing is a form of cooperation in which participants work in pairs or small groups to produce a jointly written text, sharing responsibility for the whole process and the final product (Saunders 1989). To generate ideas for the text, expression of task relevant knowledge (Fischer, Bruhn, Grasel, & Mandl, 2002) is required and when a participant contributes an idea, he expects a response from his co-authors (Nykopp, Marttunen & Laurinen, 2014). In the course of writing together, participants discuss the relationship between ideas for content and react on each other's suggestions and explanations (Vass, et al., 2008). In the same manner, participants handle issues regarding procedural aspects and linguistic issues (Storch, 2005), like formulation, writing conventions and text structure. Writing in small groups or dyads may consequently promote writing skills, conceptual comprehension, understanding of content knowledge and reflective thinking (Nykopp, et al, 2014). What becomes clear from these studies, is that collaborative writing may be considered to be primarily a process of joint decision-making. Creating one text together requires participants to take numerous shared decisions. And although extensive research has been carried out on the content and coordination of the talk during writing together, less attention was paid to interactional practices students display as they negotiate for consensus (Siitonen & Wahlberg, 2015). Such negotiations are generally provoked by a proposal (Houtkoop-Steenstra 1987, Couper-Kuhlen 2014) that is expressed by one of the participants. Thus, studying how students proffer and handle proposals to take shared decisions, may generate insightful

knowledge on collaborative writing, that can be deployed to optimize conditions for this activity. This paper reports on a study on the nature and function of proposals in collaborative writing, informed by Conversation Analysis (Sacks, Schegloff & Jefferson, 1974) which has enabled us to analyze interaction in great detail. Before proceeding to our research, we will provide a theoretical background on both collaborative writing and on proposals in the next section.

2.2 Background

Processes and products of collaborative writing have been studied from different theoretical backgrounds, related to learning-to-write, including writing in a second language, and writing-to-learn in environments with and without computer support for writing (Nykopp et al, 2014; Van Steendam 2016). Both qualitative and quantitative studies have been conducted on writers collaborating to produce text, using a variety of methodological approaches. In a review, Van Steendam (2016) reports that the majority of these studies has shown beneficial effects of learning to write and writing to learn collaboratively. Writing together helps learners to learn from each other's' writing and regulation process, and encourages critical reflection, the pooling of recourses and a heightened sense of audience awareness, which all may have a positive effect on individual writing. Studies on peer interaction in collaborative writing were conducted from two main perspectives: learning to write and writing to learn.

Studies on collaborative writing from the perspective of learning to write, focus on the cognitive perspective of writing as a process consisting of three recursive phases of planning, translating and revising (Flower & Hayes, 1980; Hayes, 1986; Hayes 2011), and models of writing as a form of solving conceptual, metacognitive and rhetorical problems (Bereiter & Scardamalia 1987; Hayes 2006; Galbraith 2009). A significant amount of these studies was conducted in the context of second language learning of adults and focus on self-directed or other-directed speech, interaction patterns, the role of peer feedback, attitudes and perceptions of collaborative writing or on comparison of individuals and pairs on text accuracy (Nykopp et al, 2014; Van Steendam, 2016). Storch (2005) studied adult L2 students writing together and distinguished task clarification, generating ideas, language related interaction, structure, interpreting given information and reading/ re-reading as different activities that were determined by examining the conversation of the students. These descriptions resemble the so-called episodes, consisting of specific activities (by the authors referred to as speech turns), that Marttunen & Laurinen (2012) observed in L1 collaborative writing of university students: steering the group's performance, planning the text, writing and revising the text, topic-related discussion, evaluation, and off-task discussion. Quite similar conversational

topics were found in data of primary school children writing together (L1 writing). Vass (2007) distinguished five different foci in the interaction of young writers in primary school. Four were centred around the text: creative content generation, planning of content, reviewing the generated content and transcription of generated content. The fifth focus, labelled process-orientated thinking, is related to practical aspects of the writing together, for instance management issues, strategies for collaboration, or the use of technical equipment. An earlier study on collaborative writing of primary school children was conducted by Saunders (1989), who studied different tasks for collaborative writing and focused on the interactive structure, labelled as roles and responsibilities the students assume as co-writers, in relation to the writing task. Vass et al. (2008) studied the discourse of collaborative creative writing, and focused on the role of emotions in creative content generation, where among an analysis of overlaps and interruptions in turn-taking. In all studies mentioned above, writers use pen and paper to write their text. A few other studies focused on peer interaction in collaborative writing with use of a computer. Rojas-Drummond, Albarrán and Littleton (2008) expose the cyclical and iterative processes involved in children's collaborative planning, writing and revising their stories, in the context of creating multimodal productions from texts. The interplay between talking, writing and computer devices was studied by Gardner & Levy (2010) who analysed the temporal synchrony and 'matching points' between talking and writing, in the collaborative writing of a multimodal text for a website. The researchers were able to display different patterns in the coordination of talk and action, in which the computer was regarded as a participant in the interaction.

The second line of research on peer interaction in collaborative writing is related to studies on writing to learn (Klein 2014; Van Steendam, 2016). Chen (2011) studied 5th graders in a science classroom from a knowledge building perspective, in different conditions of using talk and writing: separately, in sequence or simultaneously (see also Rivard & Straw, 2000). The conversation and written arguments were analyzed from the perspective of cognitive processes, using categories such as express, report, share, describe, elaborate, organize, compare, integrate and defend. Overall, studies that focus on the role of knowledge building discourse in the context of collaborative writing, are strongly rooted in the tradition of sociocultural research on learning (Littleton & Mercer, 2010; Tynjälä et al, 2001). From this viewpoint, peer interaction in collaborative writing is mainly analysed from the perspective of writing as a mediational tool for learning, drawing on the methodology of sociocultural discourse analysis (Mercer, 2004). Characteristics of the interaction are defined in terms of social modes of talking, like cumulative or exploratory talk (Thompson & Wittek, 2016), co-construction and collaborative creativity (Rojas-Drummond, et al. 2008) and dialogical interactions (Rojas-Drummond, Littleton, Hernández, Zúñiga, 2010). Rojas-Drummond et al. (2016) studied talking, reading and writing of primary school children, and found that the student's

ability to co-construct knowledge and produce a coherent synthesized summary piece of writing, was highly dependent on their ability to talk and think together. The students worked together in small groups to write an integrative summary of three related textual sources. The analysis of the discourse distinguished different episodes of talk, including: inviting elaboration of reasoning, expressing or inviting ideas, reflecting on dialogue or activity, positioning and coordination, and making reasoning explicit.

Analysis of the interaction in all studies mentioned above, focuses on roles of participants and on content and function of discourse, but do not clarify how the students negotiate for consensus on fundamental issues regarding procedure, text content and linguistic issues. In conversation, such negotiations generally start with a proposal, being an initiating action that involves the speaker attempting to bring about some future action, event or situation (Houtkoop-Steenstra 1987, Couper-Kuhlen 2014). After a proposal is uttered by the first speaker, a recipient can accept or decline the proposal, or ask for clarification (Houtkoop-Steenstra 1987; Siitonen & Wahlberg 2015; Yasui, 2013). The recipient needs to deal with the contents of a proposal and also with his willingness to accept it (Houtkoop-Steenstra, 1987; Stevanovic 2012; Stevanovic & Svennevig 2015). Participants thus orient to two sets of deontic rights: the right to propose and the right to accept and/ or reject the proposal. Once a proposal is accepted, the participants may discuss further details or the ability to perform the idea (Houtkoop-Steenstra, 1987). Acceptance can be expressed both verbally and non-verbally, and with or without adding something to the initial proposal (Yasui, 2013). When a second speaker declines a proposal he may proffer an alternative (counterproposal). The ways in which participants handle proposals, have consequences for the sequential organization of the talk.

Several studies have been carried out to examine design and sequential characteristics of proposals in interaction (Houtkoop-Steenstra 1987; Siitonen & Wahlberg 2015; Zinken & Ogiermann, 2011) and to determine how specific constructions have consequences for the uptake by other participants (Couper-Kuhlen & Etelämäki 2015, Stivers & Sidnell 2016). Studies on how proposals are accomplished in the context of collaborative writing are limited. Nevertheless, Nissi (2015) studied the role of proposals during practices of shared text production in multiparty meeting interaction in a Finnish city organization with project members and a facilitator, set up to reorganize the municipality service sector. Analysis focused on proposals concerning textual changes and the facilitator's proposal concerning the final entry in the text. In terms of participation, the study displayed that the interaction generated different roles, rights and responsibilities for the meeting attendants. The activity of shared text production unfolded as two recurrent sequences, in which the construction of the text was accomplished through the interplay between verbal, embodied and material resources of the setting.

Although the study of Nissi (2015) enhances our understanding of the function of proposals in the process of jointly constructing a text, the circumstances differ strongly

from those of primary school children engaged in a collaborative writing task. Hence, proposals in the collaborative writing process of children may have different design features. In this study we focus on the nature and role of proposals, and the ways in which participants handle these proposals, to understand how shared text production is brought into being by primary school students.

2.3 Material and methods

2.3.1 Context

Data for this study was taken from six primary schools in The Netherlands, in grades 3 to 6 (children aged 8 to 12 years old), in the period 2012-2014. The schools were participating in a multiannual project carried out by the Centre for Discourse and Learning (NHL University of Applied Sciences) to acquire more understanding of how, in the context of inquiry learning (Bereiter, 2002), peer interaction can contribute to both knowledge building and language proficiency. The overall research project was based on the principles of Educational Design Research (Plomp & Nieveen, 2007; Walker, 2006), which implies that it included specific pedagogical interventions. The schools conducted projects for inquiry learning, in which students worked in pairs or small groups on their own research questions, for about three weeks in two periods each year. Students followed a format for conducting their research in five phases. Overall project themes were for instance Superheroes, Clothing, Machinery and equipment, Sports and games and Local history. Video recordings were made of the small groups performing writing activities during all stages of their research project, using a digital Sony camcorder, in some cases supplemented with an external microphone on the table.

2.3.2 Data

The dataset consists of video recordings and holds 33 collaborative writing events, with a total time of 6 hours and 13 minutes. In accordance with the description of speech events from an ethnographic perspective on communication (Hymes, 1972; Freebody 2003), we regard a writing event as a series of goal-oriented communicative actions to create a text together. The events vary from 1.27 minutes to 52.26 minutes, with an average of 10.39 minutes. Students worked in dyads or small groups of three or four students and were mostly free in their choices concerning the use of writing during their research process. Teachers were not involved and no specific instruction or assignments were provided. However, students used a learning log, which invited them to write down research questions, plans of action and reflections on the inquiry process. In cases where students wrote a letter, teachers provided them with an instruction card holding information about the overall structure and the different components of a formal letter.

With the exception of a single case, where four children were writing a list of interview questions, all groups produced one single text together. In order to gain a clear overview of the different writing events the students were engaged in, we categorized all video data in terms of the intended written products. Table 1 provides an overview.

Table 1. Overview of writing events in inquiry learning

Written products	Main activity	Number of events
Plan of action	Articulating research questions in learning log	3
Reflection	Reflecting on activities or progress in learning log	3
Mind map	Exploring a new research topic	3
List of questions	Formulating questions for an interview	3
Letter	Writing a letter to collect information	7
Notes	Taking notes while reading (online) source texts	8
Story	Writing a story about research findings	1
Report	Writing an informational text about findings	2
Poster	Writing short texts or captions at pictures	2
PowerPoint	Writing short texts in a presentation	1

In 7 cases students used a word processor or presentation program on a desktop computer: for writing notes (5 events), a report (1 event) and for creating a PowerPoint presentation. Regardless of whether students wrote with pen and paper or with a computer, the interactions can be characterized as face-to-face peer interaction and all events aim at the joint production of a text. For that reason, our analyses of proposal sequences does not distinguish between computer and pen-and-paper writing.

2.3.3 Analysis

The method was primarily informed by the methodology of (applied) Conversation Analysis (Schegloff 2007; Antaki, 2011; Mazeland, 2003) and designed as a collection study, focusing on generalization of a cumulative series of single case analyses with respect to a single phenomenon (Mazeland, 2006). The basic methodological principle of Conversation Analysis (CA) is that the meaning of an utterance is established in the course of the interaction following that utterance (Koole & Elbers, 2014). The inductive analysis focused on utterances that function as a proposal, which is reflected in the uptake of the participants. The first speakers' plans or intentions are not binding, but are contingent on the recipients' approval (Stevanovic & Peräkylä, 2012).

To enable fine-grained analysis of the interaction, video recordings were transcribed; see appendix for an overview of the transcription conventions. We then used ATLAS-ti, software for qualitative data analysis, to create collections of fragments with different practices to bring forward proposals. A practice can be defined as the observable means by which an action is implemented in interaction (e.g. word selection, grammatical form,

prosody, embodied behaviour). Following these steps, we were able to identify different targets and syntactical constructions of proposals in collaborative writing, and related patterns of proposal sequences, including the position of writing down new content.

2.4 Results

2.4.1. Targets of proposals in collaborative writing

When primary school students write together in the context of inquiry learning, proposals target different aspects of both the writing product and the writing process. We identified a total of 494 proposals in our data (not counting reformulations of previously expressed proposals by the same speaker). The following main targets of proposals were distinguished: (1) content of the text, (2) procedures (task management), (3) translation of clauses, (4) text structure, and (5) layout. A total of 264 (53%) proposals and counterproposals targeted ideas for content (whether or not combined with translation of the ideas; see sub section 4.3), and 159 proposals (32%) were related to the procedure of the writing task, for instance the order in which activities should be carried out or division of labour. The remaining 15% of the proposals were related to text structure, layout and translation. Proposals regarding translation include grammar and spelling matters as well as writing conventions. Students propose for instance the use of an exclamation mark at the end of a sentence, the use of the past tense or present tense of a verb, or the use of formal or informal language with reference to choices in the use of abbreviations, or the use of specific personal pronouns for the addressee of a letter. Proposals for text structure were hardly present in the data. We noticed how students make much more use of suggestions or commands (Searle, 1979; Coupler-Kuhlen, 2014) when addressing text structural issues.

An illustration of different practices to bring forward proposals can be found in Excerpt 1. Four girls are working on their research theme about local history and at this point they are generating ideas for a letter to children of a nearby school, to ask for information about the past. The teacher provided them with an instruction card that holds information on the different components of a letter. The fragment starts when student B reads aloud from this card the words "why you are writing the letter" (*waarom je de brief gaat schrijven*), claiming that providing a reason for writing the letter is now the first thing they have to do (line 52). Note: in lines 54-55 one student completes the utterance of another student, and since the sentence is structured in a different way in English than in Dutch, we also present a literal word-for-word translation for these lines (italicized), besides the translation into English colloquialisms (gloss), as further applied in the transcripts.

(1) Four students write a letter to collect information on local history (1)

52	B	→	uhm:: dan kunnen we waarom je de brief gaat schrijven moeten we
			uhm:: then we can why you are writing the letter we should attend
53			eerst doen ((leest hulpkaart))
			that first ((reads instruction card))
54	C	→	°wij schrijven deze brief omdat wij informatie°
			°we write this letter because we information°
			°we write this letter because we are looking for°
55	B	→	ZOEken over verleden (.) over het ver↓leden
			LOOking for about past (.) about the ↓past
			inforMAtion about past (.) about the ↓past
56	C	→	ja >bijvoorbeeld< dan moeten we eerst even legge- zeggen waar we waar
			yes >for instance< then we first just have to lay- say what we what we
57			we het over hebben °dus uhm: °
			are talking about °so uhm: °
58			(1.2)
59	B	→	wij doen het over uh het verleden uh kunnen jullie ons helpen >°om°<
			we are working on uh the past uh can you help us >°to°<
60			informatie op te zoeken
			look for information
61	C	→	wij doen een project over het verle:den
			we are working on a project about the pa:st
62	B		ja
			yes
63	A		oké= ((C begint te schrijven))
			okay= ((C starts to write))
64	B		=°dus wij doen een project over het verleden° (.) >°schrijf maar op°< **=°so we are working on a project about the past° (.) >°write that down°<**
65			(3.5) ((C is writing))

Student B articulates a procedural proposal concerning the sequence of the different tasks (line 52), explicitly referring to the instruction card. In line 54 student C subsequently brings forward a proposal for content, that is completed by student B in line 55. In the following line (line 56), student C expresses a proposal for text structure. She claims that first they have to make clear what the letter is about and after having said this, she resumes her initiative to propose an opening sentence for the letter. In line 61 student C pronounces another proposal. Note that this proposal, as well as the jointly constructed sentence in lines 54-55, is not only a proposal for new content, but at the same time a proposal for the translation of that content (see also section 3.3). Student C then proposes

a reformulation of the idea (line 61), replacing "it" with the more specific word "project", thus performing an embedded correction (Jefferson, 1987).

Only when students work together on a report, a poster or a PowerPoint presentation, proposals for layout were observed. In cases of writing a letter, the draft version was written with pen and paper and layout was not an issue because the letter would be typed in Word at another moment. When writing in a learning log, students enter text at specific pre-designed places in the document, so layout was neither an issue. As regards the creation of a poster, proposals for layout mainly concerned the amount of text that could be placed on the document. Proposals for layout were mostly present when working in Word or PowerPoint. Proposals for layout can be found in Excerpt 2, a fragment of a conversation between three boys who are working on their research project about clothing. The students have assembled relevant information in a Word document and now they want to make a summary. In the meantime, student B is working on a poster. Student C operates the keyboard and mouse.

(2) Three students are working on a text document on clothing (1)

157	A		ik ga even bij tom kijken ↑ja
			I will just go and check on tom ↑yes
158			(18.0) ((A walks towards B, they talk inaudible because of background noise from other students. C selects text fragments and is experimenting with font sizes))
159	C	→	↑hé timo wat vind jij hiervan, ((vestigt aandacht op tekst op scherm))
			↑hey timo what do you think of this, ((draws attention to text on screen))
160			(3.8) ((A walks back to the computer))
161	C		↑zo ((*A kijkt op scherm*))
			like this ((A looks on screen))
162	A		ja
			yes
163			(2.5)
164	B		dat zou wel ↓kunnen
			that's a ↓possibility
165	C		zo (moet ie een) beetje groter
			like this (it should be a) bit bigger
166	A	→	ja: of misschien twaalf (.) nah dat wordt iets te groot
			yea:h or maybe twelve (.) nha that becomes slightly too large
167	C		↑twaalf (.) nee dat is ↑hartstikke goed want anders (.) kijk voor
			↑twelve (.) no that is ↑very good because otherwise (.) you see for
168			iemand die het niet zo goed kan eh
			someone who is not very able to eh

169		(0.6)
170	A	jah (.) dat is ook wel goed (.) [°op zich°
		yeah (.) that is also quite good (.) [°in itself°
171	C	[uh: wat ( )
		[uh: what ( )

After a long silence (line 158), in which student C experiments with font size, he conducts non-verbally a proposal for the layout and tries to find consent for his idea, when verbally drawing the attention of student A (line 159). In line 161 student C demonstrates the proposed action and student A displays explicit agreement (line 162). In line 166-170 a final proposal for the layout issue is brought forward and accepted. In lines 167-168 student C starts accounting for his idea, although he doesn't finish his argument. It is also apparent how both verbal and material actions co-occur spatial-temporally to construct a proposal, and how the computer is integrated in this practice (see also Gardner & Levy, 2010).

In this sub section we demonstrated that proposals of students in collaborative writing have varying targets. The excerpts also display different practices for designing proposals. In the next subsections we will elaborate on these varying constructions and different means to accept or reject proposals of peers. We will focus on the two kinds of proposals that are most common in our data: proposals for procedure (sub section 2.4.2) and for content (sub section 2.4.3).

2.4.2. Construction of procedural proposals

The most common syntactic constructions used for doing procedural proposals are built of declaratives with the personal pronoun 'we', accompanied by different auxiliary verbs expressing future actions: 'will', 'shall', 'may' or 'should' and an independent verb related to the writing activities. Another observed declarative form is a construction with 'I will', followed by an independent verb and closing with a tag question, soliciting agreement or consent. Besides declarative sentences, students use interrogative constructions, starting with the auxiliary verb 'shall' plus 'we' or 'I' and an independent verb. The following Table provides an overview of the different syntactical constructions for procedural proposals. The symbol + means a composition of grammatical elements, and +/- means that a construction has two options: with or without the following element.

Table 2. Construction of procedural proposals

Syntactical design		Examples
a	Declarative: personal pronoun 'we' or 'I' + auxiliary verb expressing necessity (must/ should/ have to/ shall) + independent verb related to the writing activity	- haha NOU ((slaat vuist op tafel)) we moeten nu echt verder (.) wat is de eerste vraag die we kunnen bedenken **haha WELL ((slams her fist on the table)) we really must go on now (.) what is the first question we can think off** - .. een slot waarin je in een nette zin alvast bedankt voor de moeite ((lees instructiekaart)) (.) dat moeten we nog wel even doen **.. a closing in which you already thank for the effort in a neat sentence ((reads instruction card)) (.) we should do this momentarily**
b	Declarative: personal pronoun 'we' or 'I' + auxiliary verb expressing possibility (may/ could/ can) + independent verb related to the writing activity	- o:h dan kunnen we dit printen! **o:h then we can print this!** - maar we kunnen nu even op de achterkant >voor de camping< (.) ja **but we could use the backside now >for the campsite< (.) yes**
c	Declarative: personal pronoun 'we' +/- auxiliary verb 'will' + independent verb related to the writing activity	- en dan gaan we nu even voor de jurk. **and then now we will go for the dress.** - dan laten we het zo >denk ik< anders krijgen we te veel **then we will keep it this way >I think< otherwise we will get too much**
d	Declarative: personal pronoun 'I' +/- auxiliary verb 'will' + independent verb related to the writing activity, +/- tag question, asking consent	- ik ga schrijven ja **I will do the writing yes** - ik ga even bij Tom kijken, ja **I will go and check on Tom, yes**
e	Interrogative: auxiliary verb ´shall´ + personal pronoun 'we' or 'I' + independent verb related to the writing activity	- zal ik dat even vragen, (.) aan meester, **shall I ask that, (.) the teacher,** - dit is klad (.) zullen we dit klad doen **this is a draft (.) shall we make this the draft version then**

To illustrate categories a and c in context, Excerpt 3 is presented. Four students are gathered around two desktop computers, working on their research theme Halloween. Their learning log, opened at the page with their research questions, is lying on the keyboard of student C who is operating the mouse and keyboard to create a PowerPoint presentation. During this conversation, he writes down the headings of the presentation (the contents). The students are looking for information on a Wikikids web page on Halloween, using another desktop computer that is operated by student B. The fragment starts when student A reads aloud from the screen (showing a table of contents) the words "how did they come up with the name" (*hoe komen ze aan de naam*). At this point the students are discussing the selection of relevant topics for their presentation.

(3) Four students are gathering information on Halloween

98	A		hoe komen ze aan de naam dat is ook wel= **how did they come up with the name that is also quite=**
99	B		=ik vind deze heel schattig **=I find this one very cute**
100			(1.4) ((students are talking together))
101	C		alleen dat hoort bij ↓geschiedenis **but that belongs to ↓history**
102			(0.8) ((C deletes text from table of contents))
103	A	c→	ja: ja waar vieren ze het allemaal (.) nou ja dan is (.) dan houden we **ye:s yes where they celebrate it all (.) well then it (.) then we will**
104			het zo denk ik (.) anders krijgen we ook te veel **keep it like this I think (.) otherwise we will get too much**
105	C		maar de hoofdvraag moet even ↑hierboven (.) hier even ((wijst aan met muis)) **but the main question should just be above ↑here (.) just here ((points to it with mouse))**
106	A		ja maar dat is geschiedenis van Halloween **yes but that is the history of Halloween**
107	D		°ja dat is geschiedenis van° **°yes that is the history of°**
108	B		Halloween **Halloween**
109	A		dus dat ↓is het dan **so ↓that's it then**
110	C		( ) ((deletes a line from the table of contents))
111	B	a→	dan >moeten we nog even< eh leu- eh mooi plaatje zoeken **then we >just have to look< for uh ni- uh beautiful picture**
112			(0.6)
113	C		ja een dikke zombie **yes a fat zombie**
114			(0.3)
115	B		↑nee: **↑no:**

In lines 103-104 student A says "[...] then we will keep it this way, I think, otherwise we will get too much". Student A accounts for her proposal (Houtkoop-Steenstra, 1990), referring to the amount of information that is suitable to use for their final written product. Student C accepts non-verbally by performing the proposed action (line 110). Nevertheless, he performs a subsequent action, moving text parts in order to change the structure of the text. In line 109 student A says "so that's it then", reaffirming her earlier account for the proposal. In line 111, a second procedural proposal is uttered, again using the *we should/ have to* format: "then we just have to look for uh ni- uh beautiful picture". Student

C accepts the proposal and he immediately gives a concrete interpretation of the idea (line 112), which is then explicitly declined by student B (line 113).

As displayed in Table 2 and illustrated in Excerpt 3, procedural proposals can be designed in different ways and we found that students generally use specific constructions in different conditions. First, constructions using modal verbs of obligation, *category a,* are predominantly present in proposals that are explicitly motivated by requirements of the writing task or the intended text. These proposals are frequently uttered after a student reads aloud an instructional text. An illustration of this phenomenon can be found in Excerpt 1, line 52-54: "uhm:: then we can (.) why you are writing the letter ((*reads aloud instruction card*)) we should attend that first". Secondly, procedural proposals using a construction with the personal pronoun 'I' (*category d*), are only present when a proposal concerns a (physical) action that can only be performed by the speaker. For instance writing down new content, when the students share one pen together, or asking the teacher for assistance. These proposals are often constructed using a tag question, asking for consent.

Procedural proposals constructed as format *a* or *b* (Table 2), encounter little resistance and are thus easily accepted by the other participants. This is to a lesser extent the case in the other formats (*b, d* and *e)* where proposals are designed as an interrogative, or as a declarative with auxiliary verbs expressing an option among others. In these cases, recipients more often only conditionally accept a proposal (not-yet-accepting, Houtkoop-Steenstra, 1987), asking for clarification, or decline a proposal. However, the way in which participants handle procedural proposals, does not generate much discussion or elaboration on the topic. For that reason, interaction in the context of procedural issues can be characterized best as 'quick consensus building' (Weinberger & Fischer, 2006), which means that contributions of peers may be accepted in order to move on with the task.

2.4.3. Construction of proposals for text content

Within the category of proposals for content, both declarative and interrogative constructions were found. A notable distinction was observed in the design of proposals between two different conditions: contexts in which students are generating ideas for a text with or without (online) textual resources. Informational recourses that students use when collecting information on their research subject, are mainly informative text books or web pages that are accessed through searching results in Google.

A proposal for content that is based on a source text, is designed as an assessment of a relevant text fragment, in view of the text to write. This is done in a characteristic way: by drawing attention of other participants to the fragment, in most cases accompanied by reading out loud (part of) the fragment. For instance: "hey: when you think of streetdance you mostly think of the videos you see on TMV ((reading out loud from screen)) (0.8) ye:s!

that one is quite good". These proposals for content referring to (online) source texts can be designed with a positive assessment of a text fragment, as in the example above. In contrast, a student can express a negative assessment, which then results in a proposal to disregard or delete certain information. Assessments address the usability or relevance of the proposed text, which seems to be determined on the basis of both substantive questions regarding the research questions, and considerations about the amount of text that is suitable. Excerpt 4 provides an illustration of a negative assessment. This fragment displays another part of the conversation that was already introduced in Excerpt 2. At this point, two boys are reviewing information they collected in a Word document, on the history of the tuxedo. In line 172-173 student A claims that a part of the text he just read out loud, can be deleted. This proposal is constructed both verbally and non-verbally (pointing at the screen). Student B accepts the proposal (Houtkoop-Steenstra, 1990), after asking for confirmation (line 175) and receiving additional information from student A (line 176).

(4) Three students are working on a text document on clothing (2).

170	A		((hardop voorlezend van scherm)) dat in Engeland door heren
			((reading aloud from screen)) **that was put on in England by men**
171			van stand na het diner werd aangetrokken (.) ze trokken zich
			of position after dinner (.) **they then withdrew without**
172		→	dan zonder hun dames terug in een aparte rookkamer (.)
			((stopt)) nou
			their ladies in a separate smoking room (.) ((stops
			reading aloud)) **well**
173			dat stuk kan eigenlijk wel weg (.) ↓dit ((wijst naar
			tekst op scherm))
			that part can be deleted actually (.) ↓this ((points to
			text on screen))
174			(1.6)
175	B		zo ↑dit ((*bewerkt de tekst*))
			so ↑this ((edits the text))
176	A		nee dit (.) tot hier (.) kijk van die rookkamer ((wijst
			regels aan))
			no this (.) till here (.) look about that smoking room
			((points out the lines))
177			(0.4)
178	B		↓>oh ja<
			↓>oh yes<

A second practice to express a proposal for content referring to a source text, is an interrogative that is also regularly combined with reading out loud a text fragment. An example from a transcript of two students working on their research report on robots,

reviewing the collected information on a desktop computer, is: "around 1980 the first model came to Europe when the factories in The Netherlands ((stops reading aloud)) (.) people will find that interesting (1.3) so:: shall we keep this becau:se (.) people will find this interesting I guess". By saying 'shall we keep this', with a rising intonation, the student invites his peer to evaluate the usability or suitability of the selected text. When students express a proposal for content in a condition with the presence of source texts, a proposal occurs as a form of reported speech (Nissi, 2015). In most cases, these proposals are accepted without any further discussion.

When students generate ideas without the presence of textual resources, they exchange ideas from their own knowledge and experience. Excerpt 5 provides an example of the use of an interrogative construction to propose a new topic for the text. This fragment is a continuation of the conversation that was already presented in Excerpt 1. Now, the four students are generating ideas for the content of the letter.

(5) Four students write a letter to collect information on local history (2).

153	B		uhm:
			umm:
154			(1.5)
155	B	→	uhm:: kunnen we iets met de natuur doen,
			uhm: can we do something with nature,
156	C		°djaa°
			°mmyeah°
157	B		gewoon een vraag van de natuur
			just a question about nature
158			(3.7)
159	C		uhm:
			umm:
160			(4.6)
161	B		°over de natuur uhm:°
			°about nature uhm:°
162			(3.5)
			((A rolls pen on the table))
163	B		maar we kunnen ook doen > ↓ja maar dat weten we al<
			(.) dus (.) dat
			but we can also do > ↓yes but we already know that<
			(.) so (.) that
164	B		(ik weet) (.) heel veel vragen maar dat weten we ↓al
			(I know) (.) a lot of questions but we already know
			↓that

In line 155 a proposal for content is uttered by student B: "uhm:: can we do something with nature?". The use of an interrogative displays an orientation to an approval or rejection of the idea by the other participants, and the use of an interrogative initiates also a

new topical sequence (Park, 2012). In line 156 student C produces a weak acceptance form (Houtkoop-Steenstra, 1987), and then in line 157 student B reiterates her proposal, adding the modal particle 'just', signifying that the proposed topic 'nature' is not a very special idea, which leads to a mitigated proposal. The long silence in line 160 indicates an implicit rejection of the proposal. Student C shows she is thinking about a new topic for the text and then student B again repeats her idea, this time in a soft voice (line 161). Once again there is a relatively long silence, in which a preferred response is absent, and finally student B seems to initiate a new proposal, that at the same time is questioned by herself. Excerpt 5 also provides an illustration of the way students predominantly express a rejection of a proposal. In contrast to what can be seen in expert 3, line 114 (where the idea of a picture of a fat zombie was declined strongly), students tend to reject proposals for content quite implicitly. In response to interrogative constructions for proposals, other participants keep silent or express a weak acceptance form. When proposals are constructed as declaratives, students reject or conditionally accept these proposals through uttering an alternative, for instance in the form of an embedded correction.

Declarative constructions to bring forward a proposal for content have two main characteristics: the proposal is expressed in a passive form, lacking an explicit indication of an intended operator/ actor, unlike procedural proposals that explicitly refer to 'we' or 'I', and furthermore the proposal is recurrently provided directly in the form of the preferred translation. An example of how students combine both a proposal for content with a proposal for translation, was already presented in Excerpt 1. After reading the instruction card, a student immediately formulates a sentence for the letter, proposing both content and translation: (A) "°we write this letter because we are looking for°"

(B) "inforMAtion about past (.) about the past". Excerpt 6 shows how two boys are writing captions at photos on a poster they created, in response to visiting a mill. The fragment starts when both students gaze at the poster, thinking about the next phrase to write.

(6) Two students write captions at photos on a poster.

67			(3.0) ((students are gazing at the poster))
68	B	→	ehm (.) toen gingen we naar= **uhm (.) then we went to=**
69	A		=ehm toen ging we [naar **=uhm then we went [to**
70	B		[het krui
			[the whee
71	A	→	toen gingen we naar (.) toen toen
			then we went to (.) then then he
72			deed 'ie voor hoe je moest kruien
			showed how you had to wheel
73			(2.2) ((B is writing))
74	B	→	((stopt met schrijven)) toen ↓zei hij (.) hoe we
75			moesten kruien
			((stops writing)) then he ↓said (.) how we had to wheel

76		(2.0) ((A nods, B continues writing))
77	A	ja ((B schrijft))
		yes ((B is writing))
78		(6.2) ((B is writing))

In lines 68-70 students A and B jointly construct the final sentence by combining their ideas for content and translation of the caption: "then he showed how you had to wheel" (lines 71-72). In line 74-75 student B reformulates the clause, making it more precise. Student A displays his agreement both non-verbally by nodding (line 76) and then verbally by saying "yes" (line 77). Excerpt 6 displays how a second speaker responds to the idea of the first speaker by completing the sentence. This can be characterized as collaborative completion (Nykopp, Marttunen & Laurinen, 2014) or jointly constructed utterances (Vass, 2007), which was only observed when students discuss content and translation. These utterances as well as simultaneous and overlapping speech may be indications of a collaborative floor, which is characteristic of personal discourse, or of a strategy used to maintain shared focus and work toward a mutual goal (Vass, 2007).

Proposals for content and translation bring about extensive uptakes that consist of multifaceted responses, counterproposals and elaborations. In addition, our analysis of how proposals are done and how other participants handle proposals, showed that writing down the agreed content can occur in different sequential positions, performing different functions. In the next sub section we will elaborate on this issue.

2.4.4. The sequential positioning of writing down new content

The sequence organization of a conversation is the way in which turns are linked to each other as a coherent series of interrelated communicative actions (Mazeland, 2006). In our data, writing down words or sentences during generating ideas, occurs in different sequential positions in the talk. This location reflects the function of the actual writing, in relation to acceptance of proposals. We discerned two main patterns concerning the ways in which the sequential positioning of writing down new content occurs.

The first pattern reveals how writing down can accomplish the position of a second pair part (SPP), non-verbally expressing acceptance of a proposal for both content and translation. Students then switch between the modes of talking and writing: the first pair-part (FPP) of a sequence (Sacks, Schegloff, Jefferson, 1974) is conducted orally, whereas the SPP is performed in writing. This was predominantly observed in the setting of dyads writing together, but also in small groups of children. Writing down is then understood as a valid turn in the conversation. Excerpt 6 provided an illustration of this phenomenon. Student A constructed the final idea for a sentence, by combining their proposals for content: "then he showed how you had to wheel". After this, student B starts writing, thus expressing non-verbally his consent. Writing seams to seal the decision made (Nissi, 2015). This form of acceptance can only be performed by the student who

is holding the pen or operating the keyboard, in response to the proposal of another participant. Sequences in which writing occurred as a SPP were recurrently closed by a minimal post expansion (Schegloff, 2007), in which another student confirms that the actual writing is done and refers to the next step in the writing event, thus articulating a procedural proposal. This can also be done by the student who is writing, accompanied by reading aloud the written text so far, and then this action is part of the SPP. Proposals for content and translation generate forms of extended discourse, as well as collaborative turn sequences (Lerner, 1994), that are located in insertion sequences. The sequential structure of this basic pattern is displayed in Figure 1.

Figure 1. Sequential organization with writing as a SPP

Participant	Sequential position	Action
A	FPP	proposal for content + wording
	FPP_{ins}	counterproposal
	insertion sequence (optional)	discussing
	SPP_{ins}	final proposal uttered by speaker A
B	SPP	**writing down**
A	minimal post expansion (optional)	closure of the sequence

In the second pattern we identified, writing down new content follows reaching agreement verbally on both content and translation, thus closing the whole sequence. In this basic sequential structure, the actual writing occurs in a post expansion after verbal acceptance of a proposal for content and translation by all participants in the SPP of the sequence. See Figure 2 for a graphical representation of this structure. Regarding the participants, 'all' means that all students have to express agreement with the idea, including the student who is writing. The writer may also be student A.

Figure 2. Sequential organization with writing in a sequence closing third

Participant	Sequential position	Action
A	FPP	proposal for content + wording
	FPP_{ins}	counterproposal
	insertion sequence (optional)	discussing
	SPP_{ins}	final proposal
all	SPP	acceptance
writer	post expansion	**writing down**

An alternative of this sequential structure occurs when participants reach agreement on content and subsequently on the translation. In this case, the agreement on the text to be written down, is established in two sub sequences, after which the writing occurs in a fifth position receipt. Excerpt 7 exemplifies this. Four students are generating and writing down interview questions for a hammer smith. All students have their own pen and paper. Student C introduced the idea of asking if the hammer smith produces dogs trays. Student B shows he doesn't believe that's a relevant question, after which student C clarifies that a hammer smith uses a round plate to make such bowls, to support his own idea. Student C then proffers to write down the question, but student B again questions the proposal.

(7) Four students formulate interview questions for a hammer smith

160	B	°wat stelt het eigenlijk ↓voo:r°
		°what does it mea:n ↓actually°
161	C	wat stelt het ↑voo:r ((krabt op achterkant hoofd))
		what does it ↑mea:n ((scratches on back of his head))
162	B	want je weet gewoon dat ze hondenbakjes maken want een smid
		because you just know that they make bowls as a blacksmith
163		maakt alles wat van ijzer is
		makes everything from iron
164	D	hondenbakjes kunnen ook van ijzer zijn
		dogs trays can also be iron
165	C	ja ↑en van steen
		yes ↑and made of stone
166	B	ja steen
		yes stone

167	C		ik ken alleen maar hondenbakjes die van plastic of van steen zijn
			I only know dogs trays that are made of plastic or stone
168	B		maar ik weet wel dat ze daar hondenbakjes maken °maar dat
			but I do know that they make dogs trays there °but that
169			maakt niet uit°
			doesn't matter°
170	D		of van een bal [dat kan ook
			or of a ball [that's also possible
171	C		[ja ↓dat gaan we doen (.) zullen we dat ↑opschrijven
			[yes ↓that's what we'll do (.) shall we write that ↑down
172	A	→	nou (.) hoe moeten we dat ↑opschrijven
			well (.) how should we write that ↑down
173	C		ehm (.) ehm welke vraag was het ook ↑alweer ((naar B))
			uhm (.) uhm what question it was already ((addressing B))
174	B		hoe maken ze hondenbakjes (.) maken ze ook hondenbakjes
			how do they make dogs trays (.) do they make dogs trays
175	A		oké
			okay
176	D		↑maken ze ook hondenbakjes
			do they ↑make dogs trays
177			(.) ((all students start writing))

After discussing several ideas, student A proffers the idea of asking the hammer smith if he produces dogs trays. After the students verbally reach agreement on this idea for a question, student A asks: "well (.) how should we write that ↑down" (line 172). Student B proposes the translation for the question and after a verbal agreement by student A (line 175) and student D, reiterating the proposed sentence (line 176), all participants start writing down the proposed question.

Summarizing, the patterns display how *writing down* can be part of the decision-making process regarding proposals for content and for translation: as a means to accept a proposal or as a practice to secure a joint decision.

2.5 Conclusion and discussion

The main goal of the current study was to determine the nature and function of proposals in collaborative writing of primary school students, in the context of inquiry learning. Our study has identified five main targets of proposals: content of the text, procedure (task management), translation of generated content, text structure, and layout. The extent to which these different types of proposals play a role in the writing together process, is dependent on the nature of the writing event. When students take notes, write short

texts for presentations or when they write or review referring to (online) textual sources, procedural proposals and proposals for layout are dominant. Only in the context of writing a letter, story or report, proposals for text structure were observed. In events where students have to generate new ideas for their text (letter, story, report, interview questions, mind map), proposals are primarily focused on content and translation, and on procedural issues.

The second major finding is that the objective of a proposal seems to be related to both the syntactical design, an interrogative or a declarative construction, and the way in which the proposals are treated interactionally. We focused on proposals for procedure and proposals for content, being the categories that are dominant in the writing events. First of all, procedural proposals are generally built as declaratives with the personal pronoun 'we', accompanied by an auxiliary verb expressing future actions: 'will', 'shall', 'should', 'have to', 'must' and an independent verb related to the writing activity. Constructions with modal verbs of obligation are dominant in procedural proposals. This kind of proposals encounter little resistance and are thus embedded in simple sequential structures. While working on a text using a PC, students constructed proposals using both verbal and non-verbal (embodied and material) actions. For instance by pointing to specific text parts on the screen, or by immediately performing a proposed action. The multimodal ways in which these proposals are constructed, is restricted to this specific context.

Proposals for content are also constructed predominantly as declaratives, and notable differences were identified between events in which students generate ideas from own knowledge, or events in which students use (online) source texts. (a) When students generate ideas from personal knowledge and experience, proposals for content are recurrently combined with a proposal for translation. These proposals for content and translation bring about extensive uptakes that consist of multifaceted responses, enclosing collaborative completion, embedded corrections, counterproposals and elaborations on the topic (extended discourse). Proposals that are articulated as an interrogative construction provoke less discussion on the proposal, which may be attributable to the observation that these proposals are (partially) rejected quite implicitly. (b) When students express a proposal for content referring to available (online) source texts, proposals include a fragment of that text (reported speech). In a declarative construction, this fragment is accompanied by an assessment regarding the usability or relevance of the proposed text. In an interrogative construction, the student invites his peers to evaluate the selected information. An additional characteristic of this category of proposals is that a participant can also propose a negative selection, suggesting not to use certain content. Proposals for content that explicitly refer to source texts are barely discussed or elaborated upon.

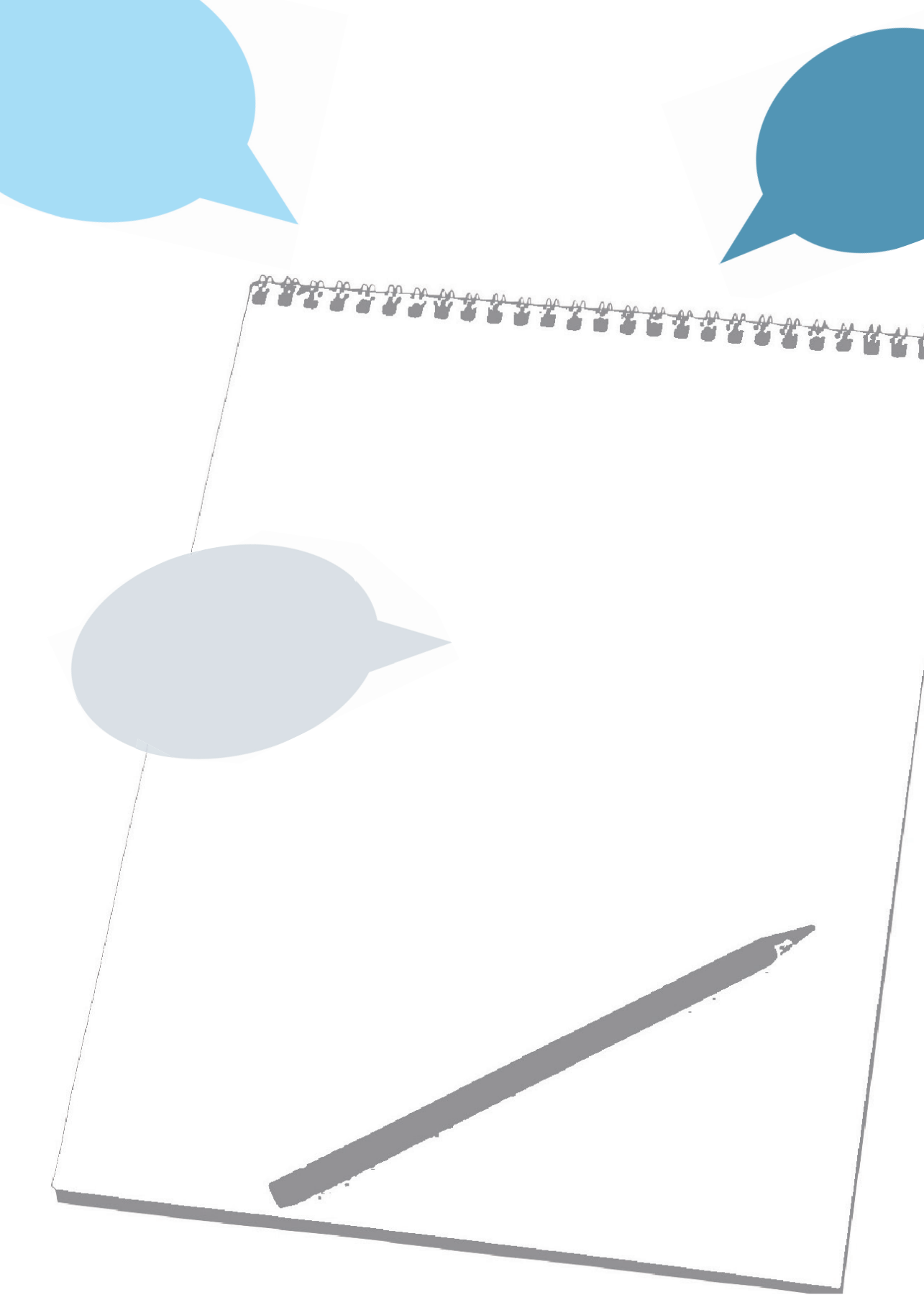
The third key outcome of our study is that writing down the agreed content and translation occurs in various sequential positions. We distinguished two main structures.

The first pattern reveals how writing down accomplishes the position of a preferred second pair part (SPP), non-verbally expressing acceptance of a proposal for both content and translation. Students then switch between the modes of talking and writing: the first pair-part (FPP) of a sequence is conducted orally, whereas the SPP is performed in writing. In the second pattern we identified, writing down new content follows after reaching agreement verbally on both content and translation. This can be done simultaneously (when a proposal for content and translation are combined) or subsequently, when participants first verbally agree on the proposal for content and then on the proposal for translation. In this pattern, writing down the sentence closes the whole sequence.

The findings enhance our understanding of how primary school students perform collaborative writing activities. Students participate as co-writers (Saunders, 1989) and proposals play an important role in all phases of the writing process. Moreover, the present analysis of proposals shows planning and translation (Flower & Hayes, 1987) to a great extent as intertwined rather than as separate activities. In other words: creative content generation and transcription of generated content (Vass, 2007) are strongly interconnected in the task execution of young writers. Process-orientated thinking was observed in procedural proposals, although these proposals were mainly related to the intended written product, and hardly to groups' performance (Marttunen & Laurinen, 2012) or strategies for collaboration (Vass, 2007). When proposals for content (with or without translation) were discussed during generation of ideas, different manifestations of elaboration, reasoning, reflecting, building on and connecting ideas (Rojas Drummond et al, 2016) were observed. Such expressions of knowledge building discourse emerge when a proposal is rejected or conditionally accepted. At this point, small-group writing activities may increase learning, since knowledge and meanings are 'co-constructed' as joint interactional accomplishments (Rojas-Drummond et al., 2010), in a process that can be characterized as creative interthinking (Vass, Littleton, Miell, & Jones, 2008; Mercer & Littleton, 2013).

Studying proposals in different writing events of primary school students, also displayed specific ways in which students construct procedural proposals. The characteristic translation of procedural proposals, using auxiliary verbs that stress necessity, seems to display an orientation to an 'organizational agenda' (Boden, 1994) and to the institutional setting in which the writing activity takes place. Although the students are working on their own research questions in the context of inquiry learning (Bereiter, 2002), intended to bring about for instance forms of creative thinking and exploratory talk (Mercer, 2004), the discourse is embedded in specific cultural activities (Hasan, 2002), that is the educational setting. The observation that students seem to be orientated to required outcomes of the writing event, may be an indication of how learning activities, including writing, cannot be dissociated from the context or the artefacts (tools, signs, symbols) that mediate them (Rojas-Drummond et al, 2008; Tynjälä et al., 2001). A strong

focus on procedural issues, that is raised by ideas about requirements of the intended written product, may reflect children's mental dispositions (Hasan, 2002), manifesting in assumptions about what is worth attending to and what actions are considered to be important (Wells, 2007). Hence, it could conceivably be hypothesised that similar assumptions play a role when students generate ideas for the text, even though proposals for content evoke manifestations of cumulative talk and to some extent exploratory talk (Mercer, 2004; Mercer & Littleton, 2013). This is an important issue for future research, since creativity and reasoning together are vital aspects of collaborative writing (Vass, 2007) and joint knowledge building (Vass et al, 2008). To optimize conditions for collaborative writing activities as described in this article, teachers may orient students more explicitly on substantive aspects of the writing activity.



3

Reflecting on appropriateness and correctness

This chapter constitutes a slightly modified version of:
Herder, A., Berenst, J., De Glopper, K., & Koole, T. (2018b). Reflective practices in collaborative writing of primary school students. *International Journal of Educational Research*, 90, 160-174.

Abstract

In this study we explore how reflective practices function in the process of collaborative writing of primary school students, performing writing tasks in the context of inquiry learning. Previous research has established that reflecting on the writing process and use of metalanguage are significant for developing writing proficiency. The Conversation Analysis-informed exploration displayed different practices. First, students reflect on appropriateness, in terms of redundancy, relevance and style, when accounting for the rejection of a proposal. Second, students reflect on correctness of spelling, punctuation and grammar, which becomes observable in recruitments, instructions and corrections. The findings suggest that students share a strong orientation to certain writing norms that are merely made relevant in a responsive manner.

3. Reflecting on appropriateness and correctness

3.1 Introduction

Collaborative writing has shown to be beneficial for developing writing proficiency of individual students. Writing in small groups or dyads helps learners to emulate and learn from each other's writing and regulation processes, may stimulate conceptual learning, and encourages critical reflection and a heightened sense of audience awareness (Klein 2014; Nykopp et al, 2014; Van Steendam 2016). Hence, joint writing tasks may stimulate the progression from a novice to a skilled writer, which has been characterized by Bereiter and Scardamalia (1987) as the transition from a knowledge-telling to a knowledge-transforming approach to writing: "the development of the ability to write [...] as involving moving the student from a natural oral conversationalist to a communicator who could generate a largely shared meaning in the absence of immediate audience" (Parr & Wilkinson 2016:217). The writing process of a skillful writer, can be characterized as a form of knowledge transforming, solving conceptual, metacognitive and rhetorical problems (Bereiter & Scardamalia 1987; Deane et al, 2008; Hayes 2006; Galbraith 2009) and as a recursive cognitive process consisting of planning, translating and revising (Flower & Hayes, 1980; Hayes, 1996; 2006). Writing thus always requires decision-making about language and communication of meaning (Myhill & Jones, 2015) and accordingly, Chen and Myhill (2016) refer to writing as an act of selecting, shaping, reflecting and revising, thus being a form of metalinguistic activity. Analysis of the different foci in the interaction of young students writing together, demonstrates this cyclical and iterative processes of planning, writing and revising: creative content generation, planning of content, reviewing the generated content, transcription of generated content and process-orientated thinking (Rojas-Drummond et al, 2008, 2010; Vass, 2007). When students reflect on generated ideas, the emergence of new thoughts for text content is triggered, resulting in very short iterative cycles, as was observed by Vass, Littleton, Miell and Jones (2008).

To become a skilled writer, children need to reflect on both the writing process and the written text: "Many studies on written composition assume there is an interrelation between the act of writing and conscious knowledge and control of the text production and verbal processes" (Camps & Milian, 2000:3). This implies that talking about writing, both concerning process and (intended) product, is a key factor in growth of writing proficiency. However, despite the importance of this aspect of writing, little research has

been conducted on how metatalk (Parr & Wilkinson 2016) may appear in the interaction of primary school students writing together, when no teacher is involved. This paper aims to explore how reflective practices function in naturally occurring peer interaction, in the context of collaborative writing events.

3.2 Background

To date, writing research from a socio-cognitive perspective on the analysis of metadiscourse, investigates spoken and written communication about language and language use in various contexts and with different methods (Grésillon & Perrin, 2014). Studies that were carried out in school contexts, focus for instance on products of reflective writing tasks to conceptualize student perceptions of writing in science education (Levin & Wagner, 2006), or reflections on the composition process, with use of stimulated recall interviews with students (Myhill, 2009). Empirical data on how collaborative writing can be favorable for developing writing skills, including consideration of the role of metatalk, is provided extensively in the context of Second Language learners writing together (Fernández Dobao 2012; Guttiérrez 2016; Storch 2005; Wigglesworth & Storch 2005). Studies that analyse verbal metatalk in the context of writing activities in regular school contexts, have primarily focused on guided teacher-student interaction, with a strong focus on teacher talk (Dolz & Erhard 2000; D'warte 2012; Myhill et al 2012; Myhill et al 2013; Jesson et al 2016), and on metalinguistic (Myhill & Jones, 2015) aspects of writing. The studies demonstrate that teachers' linguistic knowledge and their management of metalinguistic conversations are favorable factors in developing writing proficiency. However, the studies do not address in detail how children verbalize their reflections on the necessary choices they have to make as a writer.

Interaction about language use is commonly characterized as metadiscourse (Hyland 1998, 2017; Ifantidou 2005; Latawiec 2012), metatalk (Dolz & Erhard 2000) or metalanguage (Jesson et al 2016; Myhill & Jones 2015). Parr & Wilkinson (2016) define 'meta-talk', being talk about writing, as a mechanism for deepening thinking about writing. Jesson et all (2016) explore from a theoretical angle how metatalk related to writing, is a tool for learning about writing, and in particular for developing thinking about shaping meaning in writing. Drawing on Vytgotsky's (1986) theory of concept formation, grammatical terms are considered as scientific concepts: "For the student learning to write, metalinguistic concepts arguably increasingly function as scientific concepts as the student develops an understanding of the meanings in use, generalize their core features and develops systems of relationships between these concepts through mediated use" (Jesson et al 2016:158). Likewise, the authors regard specific understandings, such as

drafting, genres or reader awareness, also in the context of culturally-shaped ways of talking about writing.

Myhill et al (2013) demonstrate that grammatical pedagogical content knowledge of teachers, allows them to foster the ability of students to discuss and talk about language in precision. The authors claim that metatalk creates a dialogic space (Wegerif 2006, 2013) in which co-construction of knowledge can be considered as emerging from the process of participating. According to Wegerif, 'dialogic' assumes that meaning is never singular but always emerges in the play of different voices in dialogue together. Consistent with this idea, Jesson et al (2016) consider a dialogic space in terms of different sources of dialogic talk which may inform development in writing: textual sources (concerning the multi-vocal nature of texts), the social interactions about text and writing in the classroom context, and the individual voices of students, talking about and reflecting on their writing (Jesson et al 2016).

Camps et al (2000) assert that a student must have adequate knowledge and be able to use specific terms to refer to the linguistic concepts, in order to engage in explicit metalinguistic activity in social interaction. Chen and Myhill (2016) comply with this idea, claiming that "metalinguistic understanding involves both recognizing and identifying patterns of language use, and being able to apply that understanding to regulate one's own language use and language choices" (Chen & Myhill, 2016:101). Nevertheless, Jesson et al (2016) contend that the learning of concepts and procedures is not a pre-condition for engaging in reflective actions, but rather a consequence of it when these actions are shaped within a dialogic space. The focus of attention of recent studies on writing instruction is the role of such meta-reflections on writing choices from teachers and students, on the subject of different grammatical levels of narratives (Love & Sandiford 2016), and metalinguistic knowledge. Myhill & Newman (2016) conducted an intervention study with instructional teacher materials that focused on metalinguistic discussion in the context of writing lessons. Observations focused on how the teachers' input linked grammar and writing and fostered high quality talk, and on how student responded in these conversations. The study showed that teachers were particularly modelling metatalk through signaling explicit connections between grammar and writing, and paying attention to writer choices and reader awareness. Yet, the teachers were not able to create dialogic spaces to enhance the students' own capacity to reflect on their writing. The researchers consequently claim that teachers should learn how to adopt more open dialogic discourse roles.

Summarizing, metadiscursive activities are acknowledged to be conducive for learning to write, and according to Jesson et al (2016), dialogic space (Wegerif, 2013) can be considered to function as sites for learning about using language for writing. Dialogue is not only a tool for reasoning, but a desirable pedagogical outcome in itself (Parr & Wilkinson, 2016). In collaborative writing, these dialogic spaces may occur in

peer dialogue (Mercer & Littleton, 2013; Rojas-Drummond et al, 2010). However, little is currently known about the occurrence and function of reflective practices, regarding both text content and linguistic issues, in naturally occurring peer interaction of young writers during joint text production. Our paper will address this issue, from a socio-cognitive perspective on writing (Donahue & Lillis 2014), based on data from primary school students writing various texts in the context of inquiry learning.

3.3 Method

3.3.1 Context

Video data for this study was taken from six primary schools in the north of The Netherlands, in grades 2 to 6 (age 8-12). Aside from one school with two locations in one of the main cities in the northern region, all schools are situated in small towns in mostly rural areas. The total number of students in these schools varies between approximately 40 and 210 students. The schools participated in a multiannual project (2012-2015) designed to acquire more understanding of how face-to-face peer interaction can contribute to both knowledge building and language proficiency. Teachers implemented small-scale projects for inquiry learning (Bereiter, 2002; Littleton & Karawalla 2012), in which students worked in pairs or small groups of different ages on their own research questions, for about three weeks in two periods each year. In these weeks, most students worked on their research projects on a daily basis, or otherwise at least three times each week, with variations in duration and intensity. The students followed a format for conducting their research in five phases and project themes were for instance: Superheroes, Clothing, Machinery and equipment, Sports and games and Local history. Whether or not students would write during the project, no matter what text, was not planned in advance but depended on choices made by the individual groups (see also section 3.2). The overall research project was based on the principles of 'educational design research' (Plomp & Nieveen, 2007; Walker, 2006) in which specific pedagogical interventions were comprised, aiming at student learning and teacher professionalization, regarding inquiry learning, the use of exploratory talk (Mercer & Littleton, 2013) and collaborative reading and writing.

A total number of 74 students from middle grades (48 participants) and upper grades (26 participants) were involved in the different writing events in our dataset. The notion 'middle grades' refers to students from grades 2-4, aged 8-10 years old, and 'upper grades' refers to students from grades 4-6, aged 10-12 years old. The reason why grade 4 is represented twice in this distribution, is that the schools used different systems to arrive at a classification into groups. Very small schools need to combine more age groups into one classroom, for instance grades 2-3-4, than bigger schools. Combinations of grades 3

to 5 do not exist, so in our data a clear distinction can be made between middle grades and upper grades.

3.3.2 Data

Recordings were made of the small groups performing collaborative writing activities during all stages of their research project, using a digital camcorder, in some cases supplemented with an external microphone on the table. The term collaborative writing refers to "all activity and communication surrounding the construction of texts by multiple contributors, whether written or spoken, and whether planned or incidental" (Bremner et al 2014, p. 151). The dataset for this study holds 28 video recordings of collaborative writing events, with a total time of 5 hours and 54 minutes. In accordance with the description of speech events from an ethnographic perspective on communication (Hymes, 1972; Freebody 2003), we regard a *writing event* as a series of goal-oriented communicative actions to create a text together. A writing event holds different writing activities, for instance generating content or writing down sentences, in which these actions are situated. The writing events vary from 2:30 minutes to 52:26 minutes, with an average of 11:26 minutes. This variability in time is not related to the nature of the writing activities. The shortest event was writing a reflection in a learning log, and the longest fragment shows a collaborative writing event of two girls who are generating and writing down interview questions.

The students worked together in dyads or in small groups of three or four students and all writing activities were conducted using pen and paper. Data from three types of events, namely the writing of a short informative text and two letters, were drawn from the small-scale pedagogical interventions (see section 3.1). Table 1 provides an overview of the intended texts, main research activities and the number of events.

Table 1. Overview of the 28 writing events

Written products	Main activity	Number of events
Plan of action	Articulating research questions in learning log	6
Reflection	Reflecting on activities or progress in learning log	2
Mind map	Exploring a research topic, activating prior knowledge	1
List of questions	Formulating questions for an interview with an expert	3
Letter	Writing a letter (to collect information)	6
Notes	Taking notes while reading source texts	4
Story	Writing a story about findings	2
Report	Writing an informational text about findings	1
Poster	Writing short texts or captions at pictures	3

Teachers were not involved in the writing activities and no specific assignments were provided for the different text types. However, in cases where students wrote a letter, most teachers provided them with an instruction card holding basic information about the overall structure and the different components of a formal letter.

3.3.3 Analysis

Our explorative qualitative study was primarily informed by the methodology of (applied) Conversation Analysis (Schegloff et al., 2002; Schegloff, 2007; Antaki, 2011), henceforth CA, and designed as a collection study, focusing on the generalization of a cumulative series of single case analyses with respect to a single phenomenon (Mazeland, 2006). The central phenomenon for our study, metalanguage, derives from the research tradition of pragmatics (Ifantidou, 2005). From a CA perspective, we have analyzed the use of specific words and grammatical choices in utterances, generally designated as 'metatalk', 'metadiscourse' or 'metalanguage' (Dolz & Erhard, 2000 Ifantidou 2005; Jesson et al 2016; Latawiec 2012; Parr & Wilkinson 2016; Tang 2017), as "sets of resources which participants deploy, monitor, interpret, and manipulate as they design turns, sort out turn-taking, co-construct utterances and sequences, manage intersubjectivity and (dis) agreement, accomplish actions, and negotiate interpersonal trajectories as real-time talk and interaction unfold" (Schegloff et al., 2002, p. 15). CA follows an emic orientation, which means that the analysis is always grounded in the observable orientations of participants (Gosen & Koole, 2017). A key underlying premise of CA is that participants use language and concomitant forms of conduct to perform activities, not only to transmit information. CA aims to understand what actions are designed to accomplish by their speakers and understood to have accomplished by their recipients, and what practices implement that design.

To distinguish the different reflective practices in the collaborative writing events, we conducted the following steps. First, the video recordings of the collaborative writing events were transcribed using CA-conventions; see appendix A. Second, we designated 'all utterances that refer to other utterances or texts', using *Atlas-ti*, software for qualitative analysis. Third, we analyzed when the utterances occurred, exposing particular moments in the writing process. This resulted in three main assortments: before the actual writing of a word or sentence, during the writing, and (instantly) after writing down new text. Fourth, to elucidate the function of these reflective utterances for the writing together process, we explored how they occurred, through a sequential analysis (Schegloff, 2007). A sequence is defined as an ordered series of turns through which participants accomplish and coordinate an interactional activity (Mazeland, 2006). By following this inductive procedure, we were able to compile several sub-collections of reflective practices. Finally, a further substantive analysis of the utterances was conducted to gain insight into the orientations of the participants: why is this being said at this moment? Moreover, the

sequential analysis of the talk-in-interaction in the writing activities, also revealed how the oral and written mode in our data are interrelated.

3.4 Findings

All co-writing activities (Saunders, 1989) in the present context of inquiry learning, displayed the cyclical and iterative cycles of planning, translating and revising (Flower & Hayes 1980; Hayes 1996, 2011; Vass et al., 2008), although the length of these different aspects of writing varied, depending on the nature of the writing activity. For instance: when students were writing a letter or generating research or interview questions, they were involved in planning activities , being mainly creative content generation (Vass 2007), relatively longer than when students wrote captions on a poster. In these events, students paid more attention to translating the generated content into written language. Revision of written text focused on linguistic errors. In all writing events, with the exception of a single case, the pairs or small groups constructed one joint text together, so only one student was holding a pen at a time. The other participants habitually observed how the writer performed his task, although not every co-writer was able to monitor the writing directly, due to the arrangement of the groups.

We found that the reflective utterances in our data occur in all writing activities, and are aimed at two main aspects of writing texts. When students generate ideas, comments on proposals of peers attend to matters of appropriateness, whereas during and after writing, the comments address aspects of correctness. With these remarks, the participants accomplish different conversational actions by means of distinctive practices, which we will discuss in two themed sections: (4.1) Reflecting on appropriateness and (4.2) Actions following reflecting on correctness.

3.4.1. Reflecting on appropriateness

When children are engaged in generating ideas for the text, they bring forward proposals for content, usually verbalized in the desired linguistic construction. When other participants then question or reject this proposal (Houtkoop-Steenstra 1987), the appropriateness (Hyland 2010; Ifantidou 2005; Latawiec 2012) of an idea is frequently defied. We were able to compile a collection of 31 fragments in which reflecting on this issue is apparent. The comments are orientated to three aspects: the amount of information that is already given (10 examples), the suitability of word choices or style (6 examples), and the relevance of an idea (15 examples), that are subsequently described in the following three sub sections.

Commenting on redundancy of information

Mentioning the sufficiency of information that is already given, is a way to argue that the content of a proposal is not suitable. Most of these statements are constructed using the verb 'have' in combination with the adverb 'already', and perform a rejection to a proposal that is positioned as a First Pair Part (FPP) (FPP; Schegloff, 2007) of a proposal sequence. A rejection is a typical example of a non-preferred Second Pair Part (SPP) in a proposal sequence (Houtkoop-Steenstra 1987). However, in our data the rejections were accepted without further discussion, which displays that participants do not treat these SPP's as dispreferred responses. Excerpt 1 provides a representative example. Four students are generating research questions about farms in the past.

(1) Most famous animal

1	Abby		waa[:rv]oor (.) waar- (.) waarom hebben de (.) hebben
			for[:w]hat (.) for- (.) why do the (.) farmers
2			boeren zoveel machines,
			have so many machines,
3	Jesse		[wat is]
			[what is]
4	Owen		om te- om [te-
			to- to [to-
5	Jesse		[wat is het wat is het beroemdste dier? wat is
			[what is the what is the most famous animal? what is
6			het beroemdste dier voor=
			the most animal for=
7	Liz	→	=dat hebben we al.
			=we already have that.
8			(.)
9	Jesse		oh ja.
			oh yes.
10			(.)
11	Abby		welk dier=
			what animal=
12	Owen		=welk dier >oh dat hebben we al.<
			=what animal >oh we already have that.<
13			(.)

This fragment displays how a comment on redundancy functions as a valid argument to decline a proposal. In line 5-6, Jesse proposes to ask what the most famous animal is, when he is interrupted by Liz saying, "We already have that". In this manner, Liz rejects Jesse's proposal for a research question, referring to the fact that this idea is already written down. Jesse acknowledges that this is the case, by saying "oh yes" with a falling intonation (line 9), in a sequence closing third. Note that in line 12 Owen performs a self-correction on the same grounds. The rejection of the proposal does not lead to any further uptake by the other participants, nor is this dispreferred response mitigated,

attenuated, or accounted for. Instead, the participants start generating new ideas for their research project (not in the transcript). It seems that participants are orientated to the specific writing norms on redundancy.

We observed these comments on redundancy in all different writing events. In the next sub section, we will demonstrate that comments on proposals also address the relevance of an idea.

Commenting on relevance of information

Reflections on the suitability of proposals that display an orientation to relevance, focuses mainly on two different aspects of the writing event: (i) the topic of the research project and (ii) the relevance for the inquiry process that the students are engaged in. The examples in our data demonstrate that students generally regard 'irrelevance' as a valid argument to reject an idea, although these comments do generate some extended discourse in most cases, unlike the reflections on redundancy (sub section 4.1.1). The comments on relevance are sequentially situated in a 2nd position (SPP), mostly initiated with 'but' or 'yes, but', as a response to a proposal for content from another participant. We will elaborate on our findings concerning reflection on relevance based on two representative excerpts.

Comments on the relevance of an idea concerning the main topic are for example: "we are talking about farmers, not about countries", "but we have to think of questions to ask the blacksmith", or in a more general manner: "but that's not what we're talking about now", or "that's not the topic of our text". Our collection of comments questioning the relevance of a proposal for the text (13 instances) shows that students use both positive and negative declaratives, emphasizing what the actual topic is, and on the other hand stressing that what was said is not relevant to the topic. In general, this comment on another participants' idea is treated as a valid argument to reject an idea, which indicates a shared orientation towards specific writing norms on relevance in these writing events. Excerpt 2 displays an example of this phenomenon. Three students are constructing a mind map about horse riding, to activate prior knowledge on the subject. Previous to this fragment, Lauren shows the mind map to her peers and declares that the sheet is filled almost completely (which often proves to be an argument for considering a text as done). Ivy and Megan react joyfully and after a silence, Ivy brings forward a new idea (line 1).

(2) Horses are really sweet

1	Ivy		ze zijn heel erg ↑lief
			they are really ↑sweet
2			(0.5)
3	Lauren	→	°maar dat eh (.) heeft niks met paarden te mak-
			en°((*schudt hoofd, kijkt even naar Ivy*))
			°but that uh (.) has nothing to do with horses°
			((shakes head, gazes at Ivy for a moment))
4			(3.1)((Lauren erases something))
5	Lauren		[((gumt))
			[((erasing))
6	Megan		[°nee:° (.) maar misschien is dit het allemaal wel,
			[°no:° (.) but maybe this is just it,
7			(2.4)
8	Megan		een ↑hoevenkrabber
			a ↑hoofpick
9			(0.5)

After a short silence, Lauren questions the proposal (line 3), although in a soft voice, by declaring that this has nothing to do with horses (horse riding, the theme of the mind map). At this point, reflecting on relevance functions as a repair initiation (Schegloff et al., 1977; Kitzinger 2013) to restore coherence in the conversation with regard to the main topic. In a post expansion, Megan agrees (line 6), and adds another argument for declining the proposal referring to the amount of ideas already collected in the mind map. After a silence, she initiates a new proposal sequence by introducing the idea of a hoof pick, which decisively ends the conversation on the previous idea.

The second criterion by which students reflect on the usability of an idea, concerns the relevance for the inquiry process that they are engaged in (6 episodes). Examples are "we already know that" or "but if we already know that, we don't have to ask that". In excerpt 3 Tracy and Nina overtly express the consideration why a proposal is not relevant from the perspective of doing research. The students are generating ideas for historical questions to ask children from a nearby village, together with two peers.

(3) A lot of houses

1	Nina		hadden ze vroeger::
			did they have formerly::
2	Joni		veel
			a lot
3			(1.8)
4	Joni		veel ↓huizen
			a lot of ↓houses
5	Tracy	→	[ja >maar daar weten we het antwoord al op.<
			[yes >but we already know the answer to that.<

6	Nina	→	[ja maar dat weten we al.
			[yes but we already know that.
7	Tracy		ja. niet zo heel ↓veel tenminste minder dan (.) nu (.)eh:
			yes. not so very ↓many at least less than (.) now (.) uh:
8	Joni		we doen gewoon eentje >die we wel weten< en dan uh:=
			we just do one >that we do know< and then uh:=
9	Tracy		=nee maar dan hebben we het voor niks gedaan
			=no but then we did it for nothing
10	Nina		[nee dus dan
			[no so then
11	Tracy		[dan hebben we een vraag die we al weten.
			[then we have a question that we know already.
12	Nina		ja
			yes
13	Tracy		uhm: (.) even een vraag voor een ↓huis dus dan.
			uhm: (.) so just a question for a ↓house then.

Although the example displays extended discourse on the question whether or not it is relevant to use a question of which the answer is already known, this comment does function as a decisive argument to reject the proposal. In lines 1-4 Tracy starts to formulate a question and Joni attributes the subject to this sentence. In line 5 Tracy says "yes but we already know the answer to that", and at the same time Nina similarly shows her rejection of the idea, also claiming that they already know what the answer will be. In both cases, the rejection is positioned as a Second-Pair Part (SPP) and syntactically constructed as a declarative, initiated with the words "yes but" that indicates both a recognition of the previous contribution, which implies a shared orientation, and an argumentative comment. Tracy accounts for her rejection in the next turn, line 7, demonstrating that she knows the answer to the question (Koole, 2010), thus proving the irrelevance of the question. However, Joni suggests asking the question anyway (line 8), which indicates that she is not yet convinced, but Tracy persists and claims that if they do so, it will be useless (line 9). In line 11 Tracy rephrases her position, which is agreed upon by Nina. Tracy then resumes the joint activity (line 13), continuing the topic that was introduced by Joni. Hence, Tracy expresses that 'houses in former times' is a relevant topic, although asking for an amount of houses is not meaningful here. She proposes to formulate a new question about a house (line 13). In the next section we will address the reflective practices of young writers when discussing word choices, which can also lead to extended discourse building on proposed ideas.

Commenting on the suitability of word choice

Decisions on linguistic packaging, in particular word choice or style, are regularly discussed with an orientation to the intended audience of the text. We observed these

reflective practices when students were working on a written product with clear rhetorical goals: a letter, a narrative, an informational text (report), or a poster. In the following example (excerpt 4) four girls are writing a letter to a dance teacher to collect information on their research theme Dancing.

(4) Old people

1	Nina		of (.) ehm (.) hoe lang (.)doe je al aan dansen
			or (.) uhm (.)how long (.)do you dance already
2	Lara		[ja ((knikt))
			[yes ((nods))
3	Caitlin	→	[ja dat kan (.) hoe lang doet u aan dansen
			[yes that's possible (.) how long do you dance
4			>want je weet niet of het een menee:r of een mev-rouw is
			>because you don't know if it is a ma:n or a woman
5	Lara		ja ik weet het [( ) ((kijkt naar Caitlin))
			yes I know that [( ) ((gazes at Caitlin))
6	Caitlin		[ja maar (.) ja maar kijk
			[als we nou
			[yes but (.) yes but you see
			[when we will
7	Jade	→	[maar ↑u vind ik zo kle:fferig
			[but I think ↑you is so so:ggyish
8			[((Lara and Nina are laughing))
9	Caitlin		[ja maar >tegen oude mensen moet je altijd< u ↓zeggen
			[yes but >you always have to say you< to ↓old people
10	Jade		ja maar ik denk niet dat er ↑heel veel ouwe ↓mensen dansen
			yes but I don't think a ↑lot of old people ↓dance
11			(0.8) ((everybody is laughing))
12	Nina		oké (.) doen we gewoon je.
			okay (.) then we'll just use you.

The above example is representative for how students reflect on linguistic choices when writing together. In this case, the students discuss the use of the personal pronoun 'you', which has two forms in Dutch: *je*, which is the informal way to address another person, and *u*, which is the polite form used to address unknow and elderly people. In line 1, Nina proposes to ask the how long the addressee is dancing already, using the informal form of address. Lara shows agreement and in line 3, Caitlin accepts the proposal, but rephrases the proposed question, replacing the informal *je* by the formal *u*, thus performing an embedded correction (Jefferson 1987) on style. This may be characterized as a reformulation accompanied by linguistic comments (Camps et al 2000). Caitlin stresses the word *u*, to enforce this correction, and then gives an account in line 9, which, strictly speaking, does not apply since being a man or a woman is not relevant. Yet, Lara elaborates on this issue and seems to argue she knows the gender of the addressee (line

5), and after Caitlin initiates a new proposal sequence (line 6), Jade interrupts to decline the suggestion for using *u* instead of *je*. She thus treats the correction to the personal pronoun *u* as an argumentative statement, which she challenges by claiming that the use of that personal pronoun is soggy (pronounced in a playful manner). Caitlin responds with another argument to support her position (line 9), now expressing a valid rule for the use of this specific personal pronoun: you have to use *u* when you address eldery people. However, Jade declines this argument as well, by expressing her doubts about the applicability of that claim with regards to the intended recipient of the letter. She claims that there will not be a lot of old people who dance, an argument that convinces Nina who suggests that they may just use the informal form of address (line 12). This conclusive statement ends this proposal sequence.

Reflective comments on appropriateness in terms of style, is situated after the participants have reached agreement on the content of a proposal. The idea for content may be discussed and accepted explicitely, or agreement on the idea may be reached implicetly, in cases where a proposal combines both content and translation and patrticipants do not challenge the contents. This is different from reflective practices related to redundancy and relevance (sub sections 4.1.1 en 4.1.2), in which the content of a new idea is under negotiation. In addition, the reflection concerning style, seems to call on more general knowledge, like courtesy in addressing and writing conventions. At another point in the conversation from the above example, the four students dicussed how many questions are appropriate to ask in a letter. At that point, the one student was reading the step-by-step instructions for writing a formal letter, and then proposes to provide a sub heading 'questions' in the letter and to subsequently number the questions. Another student responded to this by asking how many questions they should be asking. Hence, the reflective activity was responsive to the reading activity.

In this section, we demonstrated how proposals for the text are discussed for their appropriateness, from three angles: the redundancy of information that is already given, the relevance of an idea, and the suitability of language choices. Considering all examples, we noticed that the intended text type is not relevant, since we observed these patterns in all different writing events. Likewise, the role of a participant, being a writer or non-writer, appears not to be relevant for these types of reflective practices, because the students are cooperatively generating and discussing ideas. However, this is not the case when children start to write. When the agreed content and packaging is actually written down, particular students comment on the work of others to provide for correctness in different ways. In the next section we will demonstrate how students monitor correct use of written language and punctuation, in order to create a proper text together.

3.4.2. Actions following reflecting on correctness

Students value the correct orthography or spelling of words, including their own names, and thus a significant amount of the comments on linguistic issues concerns correct spelling (our collection holds 24 examples). Besides orthography, students also comment on punctuation (16 instances) and in 3 cases the grammatical structure of a written sentence was discussed. When students are engaged in the actual writing of an agreed word or sentence, two different practices for solving problems with correctness can be discerned when the students are writing down new content, depending on the role of the participant at that point in the collaborative writing event: recruitments by the writer (sub section 4.2.1) and instructions by a non-writing co-reader (sub section 4.2.2). In sub section 4.2.3 we will demonstrate which practice occurs when a text is written down.

Asking for assistance on the right spelling

The first manner targets solving a potential spelling or grammar problem of the 'writer' and can only be initiated by this student. The writer then reflects on the correctness of the word or sentence he is about to write down, and recruits his peers (Kendrick & Drew 2016) to assist him with solving his approaching problem. This request for help can occur at two different points in the writing: just after the students reach agreement on the intended words verbally and the writer wants to start writing the words, or during the writing when the author is about to write down a word. In both positions the discourse about the linguistic issue precedes the actual writing, although in the first option (spelling or grammar) the recruitment may be situated in a pre-sequence, whereas in the second option (spelling or punctuation) the recruitment is located as a First-Pair Part (FPP) of an insertion sequence. This insertion sequence, in the oral mode, interrupts the main activity in the written mode, just briefly. An example can be found in excerpt 5, a fragment of a writing event in which Rebecca and Alison alternately write captions on their wall paper (poster) with pictures from a visit to a mill. The students are gazing at a photo and Rebecca proposes to write down that you can see the sails of the windmill really well on the picture. Alison accepts the proposal and once she is writing, she calls for assistance in line 4 concerning the correct orthography of the word 'sails'.

(5) Sails of a windmill

1	Rebecca	[((lachje)) (.) zet je een raam open, ((naar kind in ander groepje)) **[((little laughter)) (.) can you open a window, ((to a child in another group))**
2	Alison	[((schrijft)) **[((writing))**
3		(.)((Alison stops writing))

4	Alison	→	wieken schrijf je toch met één K, *sails write you yet with one K, **sails is written with one L right,**
5	Rebecca		wie:ken (.) ja (.) want wieke (.) schrijf je ook met **sai:ls (.) yes (.) because sail (.)is also written with**
6			één K (.) °°(volgens mij)°° **one L (.) °°(I guess)°°**
7			(4.0) ((Alison is writing))

The recruitment on the spelling issue (line 4), is a pre sequence to the writing activity, which is picked up in line 7. Alison's recruitment is designed as a suggestion: she provides an idea for the correct spelling herself and then asks for consent. Rebecca confirms that the intended word should be written that way, and provides an account by bringing up a spelling rule (although not adequate or applicable).

Recruitments concerning the correct spelling of a word, executed during the actual writing, are designed in different ways provoking specific uptakes by the other participants. The first, and most common manner is when a student asks his peers for the correct spelling of a word he is about to write down. Examples of this interrogative format are "how is Dylan written?", or "How do you write woman again?" Other participants respond to these kinds of recruitments by articulating the required word syllable by syllable. The second practice was illustrated in line 11 in the previous excerpt: the writer asks for assistance, accompanied by his own suggestion for the correct spelling. In similar cases, writing students spell out a word completely, to display what they believe is the correct spelling. These declarative question formats seem to expose that a writer particularly seeks confirmation for his ideas. The recruitments are generally responded to by confirming or refuting the possible suggestion. Third, a recruitment concerning spelling issues is performed using a simple declarative, for instance: "I really don't know how to write Nijlander". Other participants respond in the same way as in cases of an interrogative, that is by spelling out the word. On occasion, participants who respond to the recruitment, give an account displaying knowledge of spelling rules, as was demonstrated in the previous excerpt (lines 12-13).

In sum, the formation of a recruitment by the writer evokes various responses: both a declarative format in which the writer names which word is troublesome, and an interrogative format, evoking other students to spell out the intended word. A suggestion for the correct spelling of the problematic word by the writer himself, leads to a confirmation by a peer. In some cases, the response or assistance is accompanied by an account referring to spelling rules. This is salient in different contexts, so not dependent on the action formation (Levinson 2013) of the writer. When the correct spelling is verbally established, it is put into practice in written language.

The talk on correct spelling, situated in a side sequence, consequently interrupts the progressivity of the writing. This is less the case in the second type of reflective comments

on correctness we found in our data. In those cases one student gives the writing peer instructions during the actual writing.

Giving spelling instructions

The second practice for monitoring the correct spelling of a word during writing, is performed by a student who is not the writer. He or she is monitoring the actual work of the writer, and as becomes observable in the impending action, reflecting on the correct spelling of words. In these practices the student keeps a close eye on what is written down, and gives unsolicited spelling instructions to the writer, on words that are about to be written down. Regarding the sequential position of these actions, remarks on the correct spelling precede the actual writing of that word. Moreover, in these cases the writing of a word or sentence is not or only to a very small extent interrupted by the verbal comments on correct spelling. Excerpt 6 provides an example. Three students are working on their research theme 'the police'. Two of them are capturing research questions in their learning log, and the third student (Fiona) is working somewhere else in the classroom. Sophia is writing.

(6) Police suits

1	Luna		nee: eh ja nee (.) hoe werden pol↑itiepakken gemaakt
			no: uh yes no (.) how were pol↑ice suits made
2			(2.3) ((Sophia is writing, Luna is monitoring))
3	Sophia		[((schrijft))
			[((writing))
4	Luna	→	[pakken met twee keer de k
			*suits with two times the K
			[suits with a T and a S
5			(6.0) ((Sophia is writing, Luna is monitoring))
6	Sophia		[((schrijft))
			[((writing))
7	Luna		[°(hoe werden) po:li:tie: ↑pa:kke:::n° ((kijkt mee))
			[°(how were) po:li:ce: ↑sui:ts::° ((monitoring))
8			(2.4) ((Sophia is writing))
9	Sophia		ik ga even bij °fiona° kijken hoor↑ ((staat op en loopt weg))
			I will just check out what °fiona° is doing okay↑
			((gets up and walks away))

Unlike the cases we characterized as recruitments, the correct spelling of a word is articulated here without any request from the writer. Another difference is that this action almost does not interrupt the writing activity. In line 1 Luna verbalizes the final proposal ('how did they make police suits') and then Sophia starts writing (line 2), thus expressing her agreement nonverbally (Nissi 2015). Luna is watching closely how Sophia writes, and before the words 'police suits' are written down, Luna gives a spelling instruction

for those words (one word in Dutch). Sophia then continues writing, and the fact that Luna pronounces the words 'police suits' in a dictating manner, using stretched sounds in a soft voice (line 7), indicates that these words are written down as instructed. While Sophia writes, Luna takes off to see what the third group member is doing, thus ending this conversation. The example illustrates how monitoring of a non-writing co-reader can lead to both verbal instructions on correct spelling, preceding the actual writing, and to articulating the words, which can be considered as a form of hands-on instruction as well. In the latter case verbally spelling out words is conducted simultaneously with the actual writing of the words.

The reflective practices presented in this section, display an orientation to scholastic, conventional knowledge of spelling and punctuation. A reflection on correctness also becomes manifest in correction-sequences related to the actual writing. The next section will provide more insight into these conversational practices and demonstrate that these actions are also conducted by specific participants at particular moments in the collaborative writing event.

Initiating corrections of written text

Repair refers to practices for dealing with problems of hearing, speaking, and understanding talk (Schegloff et al., 1977). Other-initiated repair can be constructed through various means and usually involves a short sequence which suspends the otherwise ongoing action in which the participants are engaged (Kitzinger 2013). In our study with a focus on use of metalanguage, we nominated repair trajectories that accomplish reparation for errors of linguistic production (Kääntä 2010; Dalton-Puffer 2007), which is characterized better as corrections (Macbeth 2004). This term is commonly understood to refer to the replacement of an 'error' by what is 'correct' (Schegloff et al., 1977). Following Macbeth (2004), we consider repair and correction as two 'co-operating organizations' of classroom talk-in-interaction, that can be at work at the same time, at best in the same unfolding activity sequence.

The correction-initiations in our data that are related to writing conventions, are performed by a non-writing student who reads words or sentences that have just been written down. Reflecting on the correctness of the spelling, he then signals an error and performs an other-correction, which is in all cases instantly executed by the writer. The First-Pair Part (FPP) of this correction sequence (comment) is thus performed verbally, whereas the SPP (correction) is accomplished non-verbally. Excerpt 7 provides an example. Two students are generating ideas for interview questions for the owner of a bar annex camping. They take turns in writing and at this point Hannah is holding the pen. They agreed to write down the question 'how many people are there now'. Esther is reading aloud that part of the text, Hannah has just written down.

(7) Deleting one N

1	Hannah		de duhde de! ((draait papier en zet potlood op papier))
			the thedu the! ((turns paper and puts pencil on paper))
2			(.)
3	Esther		>rust- wacht even< (.) ((leest voor)) <hoeveel mensen zijn> (.) e:r nu, ((stopt met voorlezen))
			>quiet- hold on< (.) ((reads aloud)) <how many people are> (.) the:re now,((stops reading aloud))
4		→	(1.0) ((Esther looks at the sheet))
5	Esther	→	je moet één N.
			you must one N.
6			(.)
7	Hannah		nee. (.) >ik weet het< maar hier (.) dit hoort die (.)
			no. (.) >I know that< but here (.) this should be that (.)
8			oh: die n moet weg.
			oh: the N must be deleted.
9			(.)((Hannah starts to write))
10	Hannah		[((schrijft))
			[((writing))
11	Esther		[ja zo is goed. (.) en dan (.) N. (.) en één uh
			[yes that is right. (.) and then (.) N. (.) and one U
12			(.)((Hannah stops writing))

This fragment illustrates how reading of the text so far, leads to correction initiations of non-writing peers that subsequently lead to a self-correction of the writer. In line 3 Esther reads aloud the text, and after this she takes a closer look (line 4). She then performs a correction in line 5: "you must (use) one N". Hannah first seems to deny and argue this correction, claiming that she knows the correct spelling (line 7) but in line 8 she confirms that one N needs to be deleted from the word, which is then executed in the written mode (in line 9). Esther gives a positive evaluation of the writing of Hannah and then dictates the spelling of the last word "nu" (now) in line 11, being a demonstration of what we characterized earlier as an instruction (see section 4.2.2). In addition, we observed the same pattern when participants perform corrections concerning punctuation. For instance when one student is monitoring what his peer is writing, and notices that the text lacks dots. The other-correction is then conducted both verbally and non-verbally by pointing out the exact location of the intended punctuation marks and articulating simultaneously the word "dot" at all points where this punctuation mark should be placed.

The prescriptive way to comment on each other's writing seems to display a resilient orientation to certain written standard, and in most cases, other-initiated corrections aim spelling or punctuation issues, as presented in the above examples. Additionally, in three cases students reflected on the grammatical structure of a written sentence,

commenting on the way a research question was designed. The next excerpt illustrates that these conversations follow the same pattern as those commenting on spelling of punctuation. Three students are evaluating for which research questions in their learning log they have collected sufficient information, and for which questions they may need to take some action.

(8) Building the closure dyke

1	Simon		[(nee dat antwoord) **[(no that answer)**
2	Macy		[nee we moeten allee:n (.) ((leest voor)) hoe lang bestaat de afsluitdijk al ((wijst aan, stopt voorlezen)) **[no we o:nly need to (.) ((reads aloud)) how long does the closure dyke exist already ((points out, stops reading aloud))**
3	Simon		°dat ze die klaar hebben° (.) ((knikt)) ( ) **°that they finished it° (.) ((nods)) ( )**
4	Eileen	→	nou hoe ((wijst aan, leest voor)) hoe het ontstaan van de afsluitdijk (.) ((stopt voorlezen)) da's (>niet echt een<) vraa:g ((afkeurende blik)) **well how ((points out, reads aloud)) how the emergence of the closure dyke (.) ((stops reading aloud)) that's (>not really a<) que:stion ((disapproving frown))**
5			(2,0) ((Macy reads in learning log))
6	Macy		°hoe° (.) hoe **°how° (.) how**
7			(7.0) ((Macy is writing))

Eileen reads aloud research questions that were written down earlier, at the start of the research project. From our data it is not clear if Macy was the author of that sentence, but being the writer now, she adjusts the sentence (starting in line 6), after Eileen's comment on the structure of the sentence (line 4). The fragment thus shows how an other-correction of a peer, conducted in the oral mode, leads to a self-correction of the writer in the written mode.

Reflecting on correctness of written text is focused on what is already written down. The other-corrections are initiated by a non-writing student, who reads (aloud) what is written down, and then points out verbally (in some cases supported non-verbally) what the writer needs to correct in the text. This concerns the incorrectness of the spelling of a word, the absence of punctuation marks or the grammar of a sentence. We noticed that this practice (other-initiated self-correction) and giving instructions (sub section 4.2.2) was particularly present when peers of different age groups work together. In those cases, the older child tends to correct or instruct another student recurrently. In all practices

that were demonstrated in this section, the comments on correctness are provided in the oral mode, now and then supported nonverbally, and in all cases responded to in the written mode.

3.5 Discussion

Main goal of the current study was to determine how reflective practices function in the process of collaborative writing of primary school students. The results show that these practices play a part in deciding on text content and packaging, and in monitoring correctness of spelling, punctuation and grammar. When generating ideas, students address the appropriateness of a proposed word or sentence, shaped through comments on redundancy, relevance, and style of a proposal. During and after the actual writing, students are particularly concerned with accuracy and correctness, which is observable in different conversational actions that reveal reflections on correct spelling, grammar and punctuation.

Comments on *redundancy* are situated as a Second Pair Part (SPP) in response to a proposal that initiates the sequence. When students comment on redundancy, we noticed that these utterances are not treated as dispreferred: they do not provoke any discussion and students generally do not give or ask for an account. This strongly implies a shared orientation to what is appropriate, with regards to the amount of information in the intended text. Comments on the *relevance* of proposals are also positioned as a SPP in a proposal sequence, and address two aspects: relevance for the main research topic and relevance for the research process the students are engaged in. These reflective practices evoke some extended discourse, although the irrelevance of an idea is still treated as a conclusive argument to reject a proposal. Comments that address the *style* of a proposal for the text, are positioned as an argumentative response, and occur as embedded corrections of an accepted proposal. When students reflect on the appropriateness, it is interesting to notice a similarity with the so-called Cooperative Principle of conversation (Grice, 1975; Abdi, Tavangar Rizi, Tavakoli 2010). This communicative principle has been formalized into four maxims, three of which are traceable in our data: give as much information as is required, and no more (Maxim of quantity), be clear, be orderly, and avoid ambiguity (Maxim of manner) and be relevant (Maxim of relation).

Reflecting on appropriateness is shaped by comments on proposals of peers, and thus becomes observable in these comments. This means that expressing reflective thoughts on what was said, *is* the action that declines a proposal or leads to an uptake in which the proposal is discussed. This is different from moments in which students reflect on correctness. In those cases, reflecting on linguistic issues *leads to* conversational actions that have an impact on the text the students are writing together.

Once an idea for the text is accepted, one of the students will write down the word(s) and utterances that expose reflecting on the written language, then address correctness: spelling, punctuation and grammar. Students' reflections on correctness become observable in three different conversational practices. The first practice is a request: the writer asks his peers for the correct orthography of a word before he starts to write the word. This recruitment is conducted in both declarative and interrogative formats, and is positioned as a First Pair Part (FPP) of an insertion sequence. Other students respond to these calls for assistance by spelling out the intended word. The second practice is an (unsolicited) instruction: a non-writing student gives verbal instructions to the writer, just before a word is written down. Regarding writing as the main activity at that phase in the writing together process, the instructions in the oral mode are succeeded by an execution in the written mode, which displays the multimodal character of these events. This is similar to how talking and writing are intertwined in the third practice, which is an other-correction. In this reflective practice, a non-writing student reads what was already written down and suggests a correction.

Metatalk during and after the writing, appears to focus predominantly on correctness, and students then display a quite scholastic orientation to writing activities. In addition, the conversational practices in which these utterances are embedded bear a noticeable resemblance to interaction patterns of typical teacher talk (Koole & Berenst 2008; Koole 2014; Littleton & Howe 2010). These findings further support the claim of Jesson et al (2016) that in school, learners are writing in culturally determined contexts, which are powerful influences on the writing produced and how it is valued. Students perceive the writing events, although functionally situated in the context of inquiry learning, as typical scholastic writing tasks, in which assessment of writing performance generally focuses on text quality. It could conceivably be hypothesised that this is a consequence of how writing of students is assessed in Dutch schools, with a strong focus on handwriting, (errors in) overall accuracy (spelling) and stylistic faults (Bonset & Hoogeveen, 2015).

Linguistic knowledge and knowledge of writing conventions is exposed explicitly when students respond to a proposal, account for their response to a recruitment, give instructions to a writing peer, and correct a fellow student who is writing. Considering the sequential organization of these reflective practices, one of the more significant findings to emerge from this study is that explicitly reflecting on appropriateness and correctness, is responsive in nature. With the exception of instructive practices, comments that display a reflection on the different issues, occur as an immediate response to what was said or written down, and are consequently discussed in side sequences or expansion sequences. This implies that students mainly reflect on decisions relative to the writing process and the intended text, when a specific problem arises and is made relevant by one of the participants.

Although the current study is based on a small sample of participants, the analysis of reflective practices provides more insight into how these practices function in the process of writing together, and to what kinds of writing conventions, knowledge and specific norms students are oriented.Our findings suggest that collaborative writing in the functional context of inquiry learning, provides a fruitful context for creating dialogic spaces (Wegerif, 2011) to enhance conditions for developing writing proficiency of primary school children. The naturally occurring metatalk (Parr & Wilkinson 2016) related to writers' choices, may be a key starting point to orient primary school children more explicitly to for instance connections between grammar and writing (Myhill & Newman, 2016). Reflective utterances concerning the intended reader or style, may provide the grounds for elaborating on the register of different genres (Hyland, 2007; Heuboeck, 2009; Martin 2009), which may enhance students' awareness of the fact that all text echoes traces, associations and influences of other texts in an on-going chain of meaning (Jesson & Rosedale, 2016). Further studies on the current topic are needed, to optimize conditions for stimulating reflective practices in dialogical collaborative writing.

4

Sharing knowledge with peers

This chapter constitutes a slightly modified version of:

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Abstract

In focus for this study are epistemic displays in peer talk, throughout collaborative writing events in the context of inquiry learning. Conversational data was obtained from small groups of primary school students (aged 8-12 years). By means of Conversation Analysis, we found that epistemic displays are produced as (i) accounts, (ii) responses to a request for information, (iii) other-corrections, and with reference to the propositional content of a previous epistemic display, as (iv) disagreements, and (v) expansions. The occurrence of epistemic displays is related to specific aspects of the writing activity, concerning contexts that require accounting or evoke expansions, and features of the participation framework. Our research contributes to the understanding of how collaborative writing activities establish contexts for sharing and discussing knowledge in peer talk, and are worth taking into account for educational professionals, when designing collaborative writing activities for that purpose.

4. Sharing knowledge with peers

4.1 Introduction

This paper explores how collaborative writing, in the context of inquiry learning projects, creates environments for primary school students (8-12 year olds) to display and share knowledge. Previous research has convincingly established how trajectories of joint knowledge building can be observed in peer talk, for instance when writing together, but the fundamental action of *sharing knowledge with each other* has so far been underexposed. Analyzing this aspect of peer talk is important, since understanding how writing together may elicit tacit knowledge or bring to the fore knowledge that would otherwise remain unexpressed, will provide a more profound insight into how processes of learning together come about. The acquisition and demonstration of knowledge by students, is regarded as an important aspect of classroom interaction (Gardner & Mushin, 2017): "Children's displays of knowledge, as well as their prior experiences and interests, are resources for teachers to draw on to facilitate opportunities for children to build new knowledge across curriculum and social aspects of classroom life" (Houen, Danby, Farrell, & Thorpe 2017, p.57). Houen et al. (2017) showed that the variety of knowledge children bring into the classroom, originates from experiences both within and outside the classroom. A key question then is how opportunities may be facilitated in collaborative work, to create conditions that trigger sharing knowledge among students. To disclose how children share what they know while writing together, we have analyzed, by means of Conversation Analysis (Sacks, Schegloff & Jefferson 1974), how epistemic displays are produced in sequences (Schegloff, 2007) of peer talk throughout different writing events. An *epistemic display* is defined as an assertion with which a participant explicitly demonstrates (Koole, 2010) world-knowledge (Bereiter, 2002), in the course of the interaction. In the following paragraphs, we will present a brief overview of what is known from literature on knowledge building discourse in peer dialogue, in particular regarding collaborative writing and learning, and explicate that a sequential analysis is needed to disclose which contexts make it relevant for children to produce epistemic displays, when talking and writing together.

From a sociocultural perspective on learning (Littleton & Mercer 2010; Mercer & Howe, 2012; Tynjälä, Mason, & Lonka, 2001), cooperative work, in which students are (increasingly) oriented towards knowledge of others both within and outside the classroom, is understood to be beneficial for learning. Dialogic practices (Alexander, 2018; Kim & Wilkinson, 2019; Vrikki, Wheatley, Howe, Hennessy & Mercer, 2019; Wegerif, 2008; Wegerif, 2011), aiming at these intersubjective orientations, are characterized

by meaningful activities with a focus on reaching shared understanding of a task, sharing ideas, and supporting and encouraging each other to contribute and to value all contributions. Education and cognitive development are considered as cultural processes, in which a students' learning means moving to full participation in cultural practice (Bereiter, 2002), whereby meaning and knowledge are 'co-constructed' as joint interactional accomplishments (Rojas-Drummond, Littleton, Hernández, & Zúñiga, 2010). This is in accordance with the fundamental ideas of Vygotsky, who proposed that the zone of proximal development is an essential feature of learning, in which the role of social interaction is indispensable: "learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers" (Vygotsky, 1978, p.40). Knowledge of students within these trajectories of joint reasoning (Littleton & Mercer 2010; Mercer & Howe, 2012), is not a stable pre-existing state, "since access to knowledge may be granted in the course of an interactive event. Participants' state of knowledge may change from moment to moment when information is produced by other participants or discovered in the surround" (Keevallik 2011a, p.2881). Opportunities for sharing knowledge, may thus be created in collaborative content-based activities, that aim at evoking forms of joint reasoning in peer interaction (Howe, 2010; Littleton & Mercer, 2010; Mercer, 2004; Rojas-Drummond et al., 2010; Wegerif, Mercer & Dawes, 1999). Bereiter (2002) argues that discovery learning, or inquiry learning (Littleton & Kerawalla, 2012), is a context that is especially suited to prompt knowledge building discourse. Educational psychologists with a dialogic perspective on learning (Alexander, 2008; Mercer & Littleton, 2017; Vrikki, Wheatley, Howe, Hennessy & Mercer, 2019), characterize different forms of dialogue in student-student interaction based on Mercer (2004) and Littleton and Mercer (2013), of which so called *exploratory talk* is regarded as the most educationally effective. In this type of discourse, participants engage critically with ideas, reason together, provide arguments and attempt to reach consensus. Another type, to which some educational value is attributed (Vrikkie et al, 2019), is *cumulative talk,* in essence characterized as uncritically accepting accumulative ideas. Following a dialogical perspective on learning, trajectories of sharing knowledge in peer talk, are to be considered as embedded in situated, occasioned communicative practices (Knight & Littleton, 2018), like writing together. Previous research has established how collaborative writing may promote joint reasoning, as we will elucidate in the next paragraph, although these studies also did not address specifically how sharing and discussing knowledge is evoked to begin with, when students create one written product together.

Collaborative writing (Bremner, Peirson-Smith, Jones, & Bhatia, 2014; Fernández Dobao & Blum, 2013), in which participants share responsibility for the intended written product, is considered to have an effect on content learning of the participants (Donahue & Lillis, 2014; Klein & Boscolo 2016; Rojas-Drummond 2016; Van Steendam,

2016). Studies that were conducted in middle and upper grades of primary schools, demonstrate for instance how students were engaged in processes of joint brainstorming and intersubjectivity (Rojas-Drummond, Albarrán, & Littleton, 2008), and build on each other's' ideas in an extending manner (Klein, 2014). The different genres (Hyland, 2007) students worked on in these studies, were narratives and explanatory texts. Other studies report on how the interaction during the joint construction of integrative summaries based on given texts (Rojas-Drummond et al, 2016), or stories in the context of science education (Ritchie, Tomas, & Tones, 2011) may enhance content learning. Writing activities in these studies are conducted from a functional approach of writing, with an emphasis on content knowledge (Blikstad-Balas, Roe, & Klette, 2018), which corresponds to Writing in the Disciplines, the domain-specific conception of writing-to-learn (Klein & Boscolo, 2016). In a systematic review of 46 studies on writing-to-learn in science education within that tradition, Gere et al. (2019) listed four components of writing tasks as profitable for learning: meaning-making writing tasks, interactive writing processes, clear writing expectations and calling on metacognition. In primary education, the widely used Science Writing Heuristic (see also Keys, 1999a; Keys, 1999b), a template that guides the writing together process about a scientific research project, and stimulates interaction extensively at all stages of the writing together-process, proved to be a highly effective tool. Klein & Boscolo (2016) emphasize that the interactive writing processes, including whole-group and small-group discussions, are at the center of the SWH-approach and that may be an important explanation for the success of this tool. Nevertheless, while the available research demonstrates that peer talk during writing together may stimulate learning, no studies in this field have been conducted to uncover the precise nature of how writing together initially evokes sharing knowledge.

To analyze how the occurrence of epistemic displays is embedded in peer talk while writing together, a more fine-grained analysis is needed to uncover how sharing knowledge is elicited in these contexts. This can be realized by analyzing sequences (Schegloff, 2007) of peer talk, as carried out in the tradition of Conversation Analysis, henceforth CA, in which a sequence is regarded as an ordered series of turns through which participants accomplish and coordinate an interactional activity (Mazeland, 2006). Researchers who are aligned with this approach, are primarily concerned with what participants make observable for each other in interaction (Koole & Elbers, 2014): what conversational actions are recognizably being done by a speaker, and what sort of responses are made relevant for the next speaker? The basic methodological principle of CA is that the interactional meaning of an utterance is established retrospectively, in the course of the interaction following that utterance (Gosen & Koole, 2017). Sequences, or series of turns, are therefore analyzed from a participants' perspective "to see what course(s) of action may be being progressively enacted through them, what possible responses may be being made relevant, what outcomes are being pursued, what

"sequences" are being constructed or enacted or projected" (Schegloff, 2007, p.3). Approaching conversational data in this manner, allows a deeper insight into how actions that involve producing epistemic displays, are made relevant from a participants' perspective. Damşa and Ludvigsen (2016) refer to actions involving knowledge as the epistemic aspect of interaction, ranging from sharing information from sources to generating own knowledge. Enfield (2011) explains how participants demonstrate knowledge through observable actions, by giving reasons and by making inferences to consequences. A few studies have focused on how students demonstrate knowledge in classroom interaction, although these are all focused on teacher-student talk, and not on peer dialogue. Koole (2010) establishes how specific sequential contexts invite claims or displays of knowing, in the context of explanatory discourse units in math education. His study shows in detail how knowledge displays are interactionally established in question-answer sequences, for instance when a teacher invites a display of understanding, with a tag question (*yes?*), at the end of an explanatory discourse unit. Another study from the perspective of teacher-student interaction was conducted by Margutti (2006), who determined different questioning patterns of primary school teachers in instructional activities, to prompt the production of epistemic displays. Hence, applying CA to our data of collaboratively writing students, may add to a more systematic and comprehensive understanding of how students come to share knowledge in sequences of peer talk. Main question is: which sequential contexts make it relevant for the children in our data to show what they know to their peers? Building on insights related to dialogic practices in classroom interaction and joint reasoning in peer talk while writing together, this study aims to uncover how the production of epistemic displays is evoked within different sequential contexts in peer talk.

4.2 Method

4.2.1 Context

To explore how epistemic displays are produced and handled in various writing activities, we have used a qualitative approach informed by the methodology of Conversation Analysis (Sacks, Schegloff, & Jefferson, 1974; Schegloff, 2007). Data for this study was taken from six primary schools in The Netherlands, in the period 2012-2015, who participated in a multiannual project, carried out by the Centre for Discourse and Learning at NHL Stenden University of Applied Sciences. The research project was built on the principles of Educational Design Research (Plomp & Nieveen, 2007; Walker, 2006), and the main goal of the overall project was to acquire more understanding of how face-to-face peer interaction may contribute to both knowledge building and language proficiency, in the context of inquiry learning (Bereiter, 2002; Littleton & Kerawalla, 2012). The study

reported in this paper contributes to the main goal of understanding how processes of *joint knowledge building* may emerge in discussions during collaborative writing events, within this pedagogical context of inquiry learning.

The students of grades 2-6 (aged 8 to 12 years) worked in pairs or small groups of different ages, on small-scale projects on their own research questions, for about three weeks in two periods each year. In the intervening periods, specific pedagogical interventions were implemented, with a focus on creating conditions for stimulating exploratory talk (Mercer & Littleton, 2013) in the context of collaborative reading and writing. The children used a format for conducting their research stepwise in five phases, and themes were for instance *Superheroes*, *King's Day*, *Clothing*, *Machines & Appliances* and *Local history*. Whether or not students would write during their project, was dependent on choices made by the individual groups. In the organization of the collaborative work during the research projects at the schools, all participants equally held each other responsible for the outcome of a collaborative writing event, and in all cases (with the exception of one project, represented in excerpt 2), students were producing one written product together. Teachers were not involved and no specific instruction was provided, with the exception of three cases at one school, in which students were encouraged to use an instruction card holding information about the overall structure and the different components of a formal letter.

4.2.2 Data

In this context outlined above, we have made video recordings of students performing various collaborative writing activities (Bremner et al., 2014), during all stages of their research project. We were able to record writing activities of 38 small groups (in which some students are represented more than once). A total number of 76 different students from middle grades (aged 8-10 years old, 48 participants) and upper grades (aged 10-12 years old, 28 participants) were involved in the writing events in our dataset. The classification 'middle grades' refers to students from grades 2-4, and 'upper grades' refers to students from grades 4-6. The schools used different systems to arrive at a division of the children into groups, and very small schools in rural areas (less than 40 students), combine different grades in one classroom.

Table 1 provides an overview of the 38 writing events the students were engaged in, categorized in terms of the intended written products. A *writing event* is regarded as a series of goal-oriented communicative actions to create a text together, which definition is in line with how *speech events* are characterized from an ethnographic perspective on communication (Hymes, 1972).

Table 1. Overview dataset

Written products	Main activity	Number of events
Plan of action	Articulating research questions in learning log	6
Reflection	Reflecting on activities or progress in learning log	3
Mind map	Exploring a new research topic	3
List of questions	Formulating questions for an interview	3
Letter	Writing a letter to collect information	6
Notes	Taking notes while reading (online) source texts	8
Story	Writing a story about research findings	2
Report	Writing an informational text about findings	3
Poster	Writing short texts or captions at pictures	3
PowerPoint	Writing short texts in a presentation	1

Total time of the recordings is 7h and 34m, with an average of around 11 minutes for a writing event. In 30 events, written products were created using pen and paper, and in 8 cases students used a word processor or presentation program on a desktop computer: for writing notes (5 events), a report (2 events) and for creating a PowerPoint presentation (1 event). All co-writing activities (Saunders, 1989) displayed the cyclical and iterative cycles of planning, translating and revising (Flower & Hayes, 1980; Hayes, 1996; Hayes, 2011; Vass, Littleton, Miell, & Jones, 2008), with varying length of these different phases.

4.2.3 Analysis

The video recordings were transcribed according conventions of Conversation Analysis (Sacks, Schegloff & Jefferson, 1974), to enable fine-grained analysis of the interaction; see Appendix A. As a first analytical step, we selected all sequences in which an epistemic display occurred, as a point of departure for further examination. We regard an *epistemic display* as an utterance that demonstrates (Koole, 2010) world-knowledge (Bereiter, 2002). The world-knowledge that is represented in the epistemic displays, is referred to as the *propositional content* (Enfield, 2011). In our analysis, the term *epistemic display* will be used solely when referring to *on-topic* demonstrations (Koole, 2010) of world knowledge (Bereiter, 2002). For example, in a conversation of two students who are generating interview questions for the owner of a camping annex bar, the utterance *there is also a disco ball* (referring to the dance hall at that location) is regarded as a relevant (on-topic) epistemic display, but the utterance *my hand is a little nail bigger than yours* in the same conversation, is not included in our analysis, since this statement is evidently off-topic. On-topic epistemic displays have a clear connection with the overall research theme or related sub topics and research activity, regardless of the origin or nature of the knowledge. By contrast, off-topic epistemic displays have no connection with the research project, which motivates our choice to exclude these examples from the dataset,

since we are primarily interested in how task-relevant content knowledge is shared with peers. The propositional content may include instances of everyday knowledge, that children have appropriated and use in their daily activities in the home and community, and the special subject matter or scientific knowledge that children come in contact with in school (Hedegaard, 2008). The latter type of knowledge can also be characterized as 'school knowledge' (Freebody, 2013), which is explicit, verifiable knowledge that plays a central role in education.

A subsequent analysis of the sequential position (Schegloff, 2007) of these epistemic displays, was used to establish what conversational actions (Levinson, 2013) were conducted. This enabled us to create sub collections (Clift & Raymond, 2018; Mazeland, 2006) of sequences in which an epistemic display is produced, each representing a different action. A further sequential analysis then showed us how participants respond to the epistemic displays, which we refer to as the *uptake* (Enfield & Sidnell, 2017) of the actions. For this paper, all uptakes holding epistemic displays were selected for further analysis. Finally, drawn from this exploration, we disclosed how the occurrence of epistemic displays is related to specific features of the writing events the students are engaged in.

4.3 Epistemic displays in conversational actions

The systematic analysis of sequences in which epistemic displays occur, enabled us to discern the different conversational actions that are accomplished when producing epistemic displays. The sequential analysis demonstrated that epistemic displays occur in the following categories: (i) accounts (32 instances), (ii) other-corrections (5 instances), and (iii) responses to a request for information (48 instances), and in the *uptake* succeeding epistemic displays occur as (iv) disagreements with previous epistemic displays (46 instances), and (v) expansions on previous epistemic displays (31 instances). Before we discuss our findings in sub sections 4.3.1 to 4.3.5, we will briefly consider the nature of the knowledge children share with their peers.

With regard to the propositional content of the epistemic displays, the in this paper presented excerpts provide representative examples of the nature of the world-knowledge that students display in our data. Children express specific content knowledge about research themes, and some of these demonstrations may be characterized as linguistic knowledge concerning word meaning, and knowledge from special subject matter (Hedegaard, 2008), like historical and geographical facts. In addition, students display knowledge from everyday life or personal experiences, for instance about hobbies or pets, or family activities, related to their research theme. Several examples of this may be drawn from conversations that are represented in the excerpts in this paper. For

instance, when talking about general consequences of an earthquake (see excerpt 1), the students discuss the fact that the school building they are in, is quite solid and will probably not collapse in case of such an event. When preparing for the interview with a hammer smith (see excerpt 2), one student shares that he has been to the smithy before with his mother, to get new buttons on a jacket. When the same students are discussing whether or not there may have been a fire at the building of the hammer smith in the past, more abstract ideas about how a professional transfer in a smithy works (*the people who work there now will have heard that information from the people who used to work there*) and knowledge about the route of the fire department through the village (*we would have seen the fire trucks pass by*), contribute equally to this discussion. Likewise, in a conversation of four girls about whether or not a dance teacher can work as a professional dancer at the same time (see excerpt 8), one student brings forward that her cousin was once the national champion of judo, and was teaching judo lessons in that same period, to account for the idea that this combination is indeed possible. The different types of knowledge are to a great extent intertwined, and students constantly swift between knowledge that represent more general or abstract topic knowledge, which may originate from experiences within the classroom, and from personal, everyday life. Overall, the nature of the knowledge is primarily related to the topic under discussion, and not bound to specific writing activities or genres.

4.3.1 Epistemic displays in accounts

Epistemic displays that function as an account have four main uses: (i) an account for a proposal, (ii) an account for agreement with a proposal from a peer, (iii) an account for rejecting a proposal (almost half of the cases), and (iv) an account for an other-correction. Excerpt 1 provides examples of how epistemic displays function as an *account for a proposal for content* ([1]→), and as an *account for agreement with a proposal* ([2]→). Three students, Alice, Daisy and Sinan, are writing a letter to a Dutch minister about earthquakes due to gas drilling in the north of The Netherlands. At this point, Daisy proposes to ask the minister to stop gas drilling.

(1) Gas drilling

49.	Daisy		stoppen,
			to stop,
50.	Alice		nee ma[ar niet stoppen
			no [but not to stop
51.	Sinan		[met gas boren.
			[with gas drilling.
52.			(1.0)
53.	Alice	[1]→	niet (.) juist niet stoppen gewoon iets minder doen.
			not (.) just not to stop just do a little less

54.			wa:nt als ze gaan stoppen dan (.) dan kunnen we toch
			becau:se if they will stop then (.) then we can't
			niet leven?
			live, right?
55.			(0.5)
56.	Daisy	[1]→	↑jawel (.) ze halen gewoon ergens anders gas.
			↑yes (.) they just get the gas somewhere else.
57.			(1.0)
58.	Sinan	[2]→	hutss dat kan,
			hutss that's possible,
59.	Alice		ja ma[ar
			yes [but
60.	Sinan	[2]→	[beter voor ons
			[better for us
61.			(0.5)
62.	Alice		een beetje uhm:: minder willen ((*schrijvend*))
			a little uhm:: want to less ((writing))

Alice disagrees with the proposed idea (line 50), and she repeats her rejection of the idea in lines 53-54 accompanied by an alternative proposal: just drill a little less gas. To support her proposal she claims *that we cannot live when there is no more gas drilling*, formatted as a rhetorical question soliciting agreement. However, Daisy then rejects this idea and accounts for her disagreement by asserting that they (the Dutch government) can get gas elsewhere (line 56), which supports her initial idea. Sinan agrees, by claiming that this is indeed possible (line 58), followed by an account for this agreement, in which he asserts that to stop gas drilling is 'better for us' (line 60). After this, Alice writes down the request to drill less gas, putting aside the objections of her peers.

Excerpt 2 illustrates epistemic displays that *account for rejecting a proposal for text content*. In this example, four students are generating interview questions for a hammer smith. In line 88, Mike proposes to ask the hammer smith if he produces electrical devices.

(2) Hammer smith (part 1)

84	Olivia	ik weet 't °niet°(.) weet jij het ↑pAUla ((*iedereen*
		I don't °know° (.) do you know one ↑pAUla ((ev-
		eryone
85		*kijkt naar paula*))
		gazes at paula))
86	Mike	ik wee:t er ee:n (.) deze is echt vet goed
		I kno:w o:ne (.) this one is really good
87	Paula	oké ↑welke
		okay which ↑one
88	Mike	maak je °ook°(.) mAken ze ook
		elektrische ma[chines
		do you °also° (.) do they also prodUce electric de[vices

89	Liam	→	[nee::
			[**no::**
90			((*schudt hoofd*)) want van vuur kun je geen elek-
			trische
			((shakes head)) because from fire you cannot make
91			machines maken.
			devices.

In lines 90-91, Liam declines the proposal and accounts for this action with the epistemic display that electrical devices cannot be made from fire. This fragment illustrates how epistemic displays function as accounts for rejecting the propositional contents of a proposal. In this case, the proposal is not accepted, which means no new content is written down.

Another way in which an epistemic display functions as an account, is in relation to an *other-correction*. The epistemic display of a student then justifies correcting a previous turn. In excerpt 3, four students are generating sub questions on their research project about the history of Friesland, the region they live in that is situated in the north of The Netherlands. The fragment starts with a proposal for a question by Matt (line 209), followed by the initiation of a correction sequence (line 211) by Yara.

(3) History of Friesland

209	Matt		wat was het mooiste deel van friesland?
			what was the most beautiful part of friesland?
210			(.)
211	Yara		was?
			was?
212			(.)
213	Matt		wat was het mooiste deel van friesland?
			what was the most beautiful part of friesland?
214			(.)
215	Yara	→	WAS (.) maar friesland bestaat nog.
			WAS (.) but friesland stil exists.
216			(0.6)

In line 211 Yara asks *was?* which leads to a repeat of the utterance (line 213) by Matt, indicating that he assumes that Yara did not hear his utterance properly. Then Yara repeats her utterance, but stresses the word 'was', and provides an account for correcting her peer: *but Friesland still exists*.

To sum up, students account for a proposal, agreement with a proposal from a fellow student, rejecting a proposal, and for an other-correction, by producing epistemic displays. Contexts in which accounts are provided in the context of (handling) proposals, were especially observed when students were writing a letter (see also section 4). Incidentally,

in writing events that focus on generating questions for a letter or an interview, students shared little or no substantive knowledge. We observed for instance how the interaction of three boys writing a letter to collect information, focused primarily on the procedural and secretarial aspects of the intended written product (e.g. the address of the school and where to put that in a letter). Rojas-Drummond et al. (2017) observed a similar phenomenon in cases when students lacked a clear understanding of how to approach their writing task.

Considering the different writing events, we noticed that accounting for proposals and (dis)agreement with proposals of others, are particularly salient in writing events that aim at generating research questions in a plan of action, constructing a list of questions for an interview, or writing a letter to an expert to obtain information about the research theme. Accounts for other-corrections are not bound to any specific writing activities.

4.3.2 Epistemic displays in responses to a request for information

The second main category of responsive conversational actions that are accomplished by producing an epistemic display, are answers to requests for information. When a student initiates an information request, an answer holding the required information, is a type-conforming response (Koole, 2010; Koole & Verberg, 2017; Raymond, 2003; Schegloff, 2007). This answer then holds an epistemic display, and in our data different sequential contexts were found in which students demonstrate knowledge, treating a variety of actions as a request for information. We found epistemic displays in responses to (i) an explicit request to make a contribution, (ii) a clarification request, (iii) a display of not-knowing by a peer, and (iv) proposed research or interview questions.

A first type of information request that is responded to by producing an epistemic display, is after an explicit request to make a contribution, for instance *What do you know about breakdance?*, in a conversation of three girls creating a mind map together. Another illustration, in which a contribution is evoked with a request for information, is given in excerpt 4. In this fragment of three students creating a mind map about wind energy, two sub topics are addressed: why are people in favour of wind energy, and why are people against wind energy, or more precisely wind mills? In line 41 Toby asks *why are people in favour?*, being an explicit invitation to contribute.

(4) Wind energy

41	Toby	→	wat is eh (.) waarom zijn mensen er nog voor, **what is uh (.) why are people also in favour**
42	Amber		↓ehm **↓uhm**
43	Toby		e:hm **u:hm**

44	Amber	→	omdat ze geen gas hoeven te betalen, **because they don't have to pay gas,**
45	Toby		[ja **[yes**
46	Max		[ja **[yes**
47			(.)
48	Toby		dat is ↓ook wel weer waar. **that is ↓also true.**

In line 44 Amber produces an epistemic display: *because they don't have to pay for gas*. The other two students confirm this (lines 45-47). A request for new information on the topic, may also be formatted in a more general manner, like: *can you think of anything else*? The responses to these types of invitations, contain epistemic displays. A very similar context that elicit demonstrations of knowledge, is when students write in their learning log, that was used to keep track of the research process. After each working session, the students used pre-given questions to record new discoveries or information, and to plan the next steps in the research process. Main question in the learning log, is *What did we discover?*, which is always read aloud, since not all students have direct access to the text, due to the group arrangement. The question then becomes part of the verbal interaction as a form of reported speech (Nissi, 2015), and students' responses contain demonstrations of knowledge. For instance, when one student read aloud *What did we discover?*, another student replied with: *that Samhain is a Celtic word* (regarding a research project on Halloween). In some cases, students read aloud their research questions from the learning log, in order to check whether or not they have already found the answers. Examples from a conversation between three students writing in their learning log, are: *How was the enclosure dam build?* (read aloud), which is responded to with *Just with volunteers*, followed by *Who has designed the enclosure dam?* (read aloud), which is responded to by *That is Lely*.

The second type of request for information that evokes producing epistemic displays, is formatted as a question for clarification, for instance about word meaning, as exemplified in excerpt 5. Four students are generating research questions on their theme 'farms in former times' and the current topic is agriculture. After Oscar starts to formulate the question 'what is the most suitable', having trouble pronouncing this latter word (line 228), Erin then introduces the word 'crop' in line 232.

(5) Crop

228	Oscar	WAT is het geschrikst- het geschrikste e::h **WHAT is the most suilt- the suilt u:h**
229	Erin	geschikte **Suitable**

230			(0.4)
231	Oscar		[landbouw
			[agriculture
232	Erin		[gebouw- geWAS
			[agrop- CROP
233			(.)
234	Oscar		ja. gewas. (.) dat wou ik ook zeggen
			yes. crop. (.) I wanted to say that too
235			(.)
236	Rose		>wat is dat gewas?<
			>**what is that crop?**<
237			(.)
238	Erin	→	een gewas is een soort groente of zo wat je oogst
			a crop is a type of vegetable or something that you harvest
239			en[zo
			and [such
240	Oscar	→	[suikerbieten en zo (.) dat wou ik ook zeggen dus.
			[sugar beet and such (.) I wanted to say that too.
241			(.)
242	Erin		wat.= *((schrijft))*
			what.= ((writing))
243	Rose		= ja. doe dat.
			= yes. do that.

Rose asks what a crop is (line 236) in an interrogative format and with rising intonation, being a request for clarification as a First Pair Part of a repair sequence. With this action, Rose explicitly takes on a less knowledgeable position relative to her peers (K- initiation; Heritage, 2012a), and Erin subsequently provides a response, explaining what a crop is (line 238-239). Oscar immediately elaborates on the given definition with an example: *sugar beets and stuff*, which is also an epistemic display in response to the previous request for information (line 240). When all students have shared epistemic access (Heritage, 2013) on the meaning of the word 'crop', the proposed sentence holding this term, is written down. In line 243 Rose confirms her acceptance of the description and examples, as an adequate explanation of the term, leading to her acceptance of the proposal.

A third type of utterance that is responded to as a request for information, was observed in writing events that aim at generating research questions or questions to an expert. In these contexts, we observed the phenomenon that students treat a proposal for such a question as an information request. This generates producing epistemic displays, because students tend to answer the proposed question, instead of responding to the action of proposing. Excerpt 6 illustrates this phenomenon. Four students of a school in Wornich are generating questions for a letter to children of another school in the village Shelfort, to learn more about the history of that village. In line 313 Julian calls on his fellow students to come up with a new question together.

(6) Big or small

313	Julian		nou nou we gaan samen een vraag bedenken toch
			now now we are going to think of a question to-
			gether right
314			(.)
315	Devon		ja
			y**es**
316			(4.0)
317	Devon		is Shelfort klein of groot,
			is Shelfort small or big,
318	Julian	→	ja dat weten wij ↓al (.) kleiner dan Wornich.
			yes we know that ↓already (.) smaller than
319			**Wornich.**(2.3)
320	Julian		uhm
			uhm
321			(0.5)
322	Carry		we moeten even e:hm
			we have to u:hm
323	Julian		ligt het in Friesland
			it is situated in Friesland

In line 317, Devon proposes to ask: *Is Wornich small or big?*, but Julian replies with the statement that they already know the answer to that, after which he demonstrates his knowledge: *smaller than Wornich*. The students then move on to generating new ideas, which implies that the initially proposed question is now rejected. Thus, in these specific contexts, agreeing with the propositional content of the demonstrated knowledge, implies that the proposal for a research or interview question becomes irrelevant (since the question has been answered already), and is therefore rejected (see also Herder, Berenst, De Glopper & Koole, 2018b).

In this sub section we have addressed the different contexts in which epistemic displays are produced as responses to requests for information. In cases of responses to requests for information about word meaning, hence related to conceptual understanding or clarification of word meaning, no specific relation to the nature of the writing event was observed. However, producing epistemic displays as a response to a proposal for a question, or as a response to an explicit request to share knowledge, were particularly found in specific writing events. Writing activities that aim at generating research questions or questions for an expert, evoke the production of epistemic displays as responses to requests for information, more than other events. This is due to the phenomenon that students treat a proposal for such a question as a request for information, answering it as such by producing an epistemic display. Concerning the explicit invitations to show what you know about a specific topic, resulting in producing epistemic displays, were particularly found when students create a mind map together, or write in their learning log. This appears to be related to the social organization of the writing events, in terms of

participation: the different roles, rights and responsibilities students display in their actions. The student who writes down new content (holds the pen), then takes on a role as facilitator (Nissi, 2015), explicitly addressing the fellow students to demonstrate their knowledge. What is particularly striking is that this specific student himself makes considerably fewer contributions (and thus: demonstrates less knowledge) than his fellow students.

4.3.3 Epistemic displays in other-corrections

The third sequential context in our data in which epistemic displays are produced, is when performing an other-correction. An example is provided in the following fragment (excerpt 7) of two girls who are writing captions on a poster they are creating together about a visit to a polder mill. They have pasted pictures of the excursion on a big paper sheet, and Alison intends to write a caption underneath the first picture, indicating the location of the mill.

(7) Location of the windmill

11	Alison		dit is de poldermolen ((*zet pen op papier*)) (.)
			this is the polder mill ((places pen on paper)) (.)
12			in Wornich
			in Wornich
13	Rebecca	→	van de buitenka- nee: is helemaal niet in Wornich (.)
			from the outsi- no: is not in Wornich at all (.)
14			['t is in Newlan
			[it's in Newlan
15	Alison		[((*begint te schrijven*))
			[((starts writing))

In line 13, Rebecca start proposing additional information (*from the outside*), but does not finish this expansion, and instead performs an other-correction concerning the location of the mill: it is situated in Newlan, not in Wornich. In line 15, student B then starts writing down *de Newlandse molen* (the Newlander mill) on the poster, with which she accepts the other-correction (see also Herder, Berenst, De Glopper & Koole, 2018a). In an earlier study on reflective practices of primary school students writing together (Herder et al, 2018b), we established how linguistic knowledge is displayed in other-corrections concerning spelling or grammar issues. Thus, epistemic displays may function as other-corrections, and as the above example has demonstrated, these actions contribute to correctness of information in the text.

The occurrence of epistemic displays in other-corrections concerning the propositional content of an epistemic display of a fellow student, proves to appear in all different writing events. However, these types of epistemic displays are bound to the moment when students are about to write down new ideas (the phase of transcription of generated

content; Vass, 2007). Parenthetically, the sequential positioning of this other-correction is different from other-corrections that aim at linguistic issues, which are naturally done only after new content is actually written down.

4.3.4 Epistemic displays in uptakes that show disagreement

In our data, disagreeing with the propositional content of epistemic displays is exposed in responses to an *account for a proposal*, *account for an other-corrections*, *responses to requests for information*, and especially in *accounts for disagreement with proposals*, that lead to argumentative sequences, in which students demonstrate knowledge to dispute the represented knowledge of their peers. Excerpt 8 (Dance teacher) provides a basic example. Four students are writing a letter to an alleged dance teacher, named Jetty, and generating questions to learn more about her profession. Prior to this fragment, student Jolene (not in transcript) proposed to ask for how long the teacher has been dancing herself and after this, they discuss what Jetty is still capable of, considering her age. In line 74, Caitlin produces an epistemic display, that accounts for agreement with Nina's idea for the question. Caitlin designs her account with the tag question 'right?', soliciting confirmation from her peers (line 74).

(8) Dance Teacher

74	Caitlin		ja maar juf Jetty die geeft ook dansles hè
			yes but teacher Jetty also teaches dance right
75	Jade		ja.tt ((*draait ogen weg*))
			yes. tt ((eyeroll))
76	Lara		ECHT?
			REALLY?
77	Nina	→	>nee nee< alleen turnen [e:n
			>no no< only gymnastics [a:nd
78	Caitlin		[nee maar weet je toen met
			[no but then you know with
79			>jullie ook oefening< ehm (.) wist je nog dat
			>you also exercise< uhm (.) did you remember that
80			grote spektakel ehm SVW vijfenzestig jaar,
			big spectacle uhm SVW sixty five year,

In line 77 Nina explicitly displays her disagreement with the utterance that teacher Jetty gives dance lessons, by responding with *no no*, and subsequently adding a new epistemic display: *only gymnastics*. Adding an additional demonstration of knowledge, looks inherent to showing disagreement; we have noticed that a plain disagreement (*no*) in actual fact never occurs in our data. Lara asks for confirmation by asking *really?* (line 76), which may have contributed to Nina's response holding the new epistemic display. Note that previous to the response of Nina, Jade agrees with the epistemic display of her peer, by stating a plain *yes* (line 75), which is also uncommon in our data (in most

cases, agreement leads to expansions, see sub section 4.3.5). The eyeroll of Jade, may express that the idea of Jetty being a dance teacher is too logical or obvious. In line 78 Caitlin starts accounting for her idea by referring to a big festive in which she has seen Jetty dancing.

Another example of how an epistemic display functions as a disagreement with a previous epistemic display, is provided in excerpt 9, that is a continuation of the fragment in the second excerpt of this paper (*Hammer smith*). After Liam declines a previous proposal of Mike, by accounting for his action with an epistemic display (lines 90-91), an argumentative sequence follows in which Mike rejects the previous epistemic display by producing a new one.

(9) Hammer smith (part 2)

88	Mike		maak je °ook°(.) mAken ze ook
			elektrische ma[chines
			do you °also° (.) do they also prodUce electric
			de[vices
89	Liam		[nee::
			[no::
90			((*schudt hoofd*)) want van vuur kun je geen elek-
			trische
			((shakes head)) because from fire you cannot make
91			machines maken.
			electrical devices.
92	Mike	→	jawel hoor (.) want je kan ook een ketting van
			een van
			yes you can (.) because you can also a chain from
			a from
93			een elektrische zaag
			an electric saw
94	Liam	→	ja maar dan heb je ook nog van die gaa:tjes nodig
			en
			yes but then you also need those little ho:les and
95			dat kunnen ze daar niet maken bij een smid.
			they cannot produce those over there at a black-
			smith.

In lines 92-93 Mike claims in his account that B's demonstrated knowledge (lines 89-91) is not true, referring to a specific part (the chain) of an example of an electrical device, being the electric saw. Then, in lines 94-95, another example of an epistemic display occurs, when Liam claims that the chains need little holes that cannot be manufactured at a smithy. His disagreement is designed as a nuance (*yes but*) of the propositional content of the previous epistemic display. In these examples, the student makes use of

specifications (chain and little holes) of the idea under discussion and logical reasoning (the resulting inability to produce a certain item at a smithy).

Students thus produce epistemic displays to dispute a previous epistemic display of a fellow student. In the argumentative sequences that follow, students produce new epistemic displays, that mainly function as fine distinctions or as alternative ideas for the initial epistemic display. These uptakes are particularly observed in writing events that aim at generating research questions in a plan of action, constructing a list of questions for an interview, or writing a letter to an expert to obtain information about the research theme. In all these activities, students are engaged in proffering and discussing new ideas for questions, in which sharing individual knowledge is a key element in the conversation.

4.3.5 Epistemic displays in uptakes that expand on demonstrated knowledge

Expanding on the epistemic display of a peer, implies acknowledgement of the action and the propositional truth of what was said. The uptake consists of an expansion on the demonstrated knowledge, both by the first speaker (of the initial display) and by other participants. Expanding leads to additional ideas or more elaborated ideas. In our data, students expand on epistemic displays that are produced as: an *account for a proposal*, *account for agreement*, *account for disagreement, responses to a request for information*, in which students respond to proposed questions when generating ideas or invitations to share new ideas, and information in *text books*. In an expansion, the utterance builds on what is said, which may be accompanied by referring to what is noticed in an (online) source text by both students. We will provide illustrations based on two fragments from writing events: an example taken from the conversation of students creating a mind map together, and a second example from students who are taking notes from a text book.

Excerpt 10 exemplifies how expanding on a request for information may lead to more elaborated ideas for the text. Three students are creating a mind map on horse riding. The fragment starts when Lauren stops writing, and asks her peers: *can you think of one more?*, inviting them to share their knowledge on horse riding. In line 63, Megan proposes to write down the favourite food of a horse.

(10) Carrots and apples

59		(7.0) ((*Lauren schrijft en stopt dan*))
		(7.0) ((Lauren is writing and then stops))
60	Lauren	eh hebben jullie nog één,
		uh can you think of one more,
61	Megan	e:[:h
		u:[:h
62	Ivy	[e:h
		[u:h
63	Megan	ze ete- het lievelingseten van een paard.
		they ea- the favorite food of a horse.

64	Ivy		ehm ((*steekt vinger omhoog*))
			uhm ((raises her finger))
65	Megan		da's wortels
			that's carrots
66	Ivy		nee een appel.
			no an apple.
67	Megan		ja dat (.) [wortels en appels
			yes that (.) [carrots and apples
68	Lauren		[((*zet een streep*))
			[((draws a line))
69	Ivy		ja
			yes
70	Megan		[( )
			[( )
71	Lauren		[((*schrijft*))
			[((writing))
72	Ivy	→	[wortel e:n appel. (.) >lievelingseten< wortel
			[carrot a:nd apple. (.) >favorite food< carrot
73	Lauren		[((*schrijft*))
74	Ivy		en appel.((*kijkt op papier*))
			and apple. [((gazes on sheet))

When Megan says that carrots are what a horse prefers to eat (line 65), answering the question herself, Ivy rejects the idea, by saying 'no' and claiming that apples are the favourite food (line 66), thus performing an other-correction (Jefferson, 1987). However, Megan does not treat the utterance of Ivy as such, but rather adopts the utterance as an expansion on her own idea. Lines 67 and 72-74 then display how Ivy accepts this, and starts repeating and dictating the new ideas to Lauren, who has already started to add both suggestions to the mind map, by drawing a line (line 68) and writing down the suggestions (lines 71 and further).

A second illustration of how epistemic displays may lead to producing subsequent ones, is provided in the next example. Excerpt 11 shows a fragment of two students who are working on their research project on sluices and are now taking notes from a text book. They point out different elements and examples of sluices on the images. Prior to this excerpt, Polly writes down text that is read aloud or dictated by Wesley from the text book. In lines 179-180, Polly gazes in the textbook and calls Wesley's attention to a specific spot in the textbook. She then reads aloud the words *an example of old sluice heads* (line 179) (or lock heads) and produces an epistemic display referring to the image.

(11) Sluices

179	Polly		hé kijk! een voorbeeld van oude sluishoofden (.) OH
			hey look! an example of old sluice heads (.) OH
180		→	en [dat is dus zo'n e:h sluis ((*wijst aan*))
			and [so that is such u:h sluice ((points out))
181	Wesley		[((*kijkt in het boek*))
			[((gazes in the text book))
182			(0.6)
183	Wesley	→	ja. dat is zo'n blokding
			yes. that is such a block thing
184			(.)
185	Polly		heu een blokding
			huw a block thing
186			(0.5)
187	Wesley	→	maar er zijn verschillende soorten (.) je kunt er zo'n
			but there are different types (.) you can such a
188			soort (.) deze is met zo'n deur *((wijst plaatje aan*
			type (.) this one is with such a door ((points out
189			*op de voorkant van het boek))*
			image on the cover of the book))
190			(0.4)
191	Polly	→	oh dat is met zo'n omhoog en omlaag *((beweegt hand op*
			oh that is with such an up and down ((moves hand up
192			*en neer*))
			and down))
193			(.)
194	Wesley	→	JA (.) dat is een soort brug of niet,
			YES (.) that is a kind of bridge isn't it,
195			(2.0) ((*leerlingen lachen*))
			(2.0) ((students are laughing))

Lines 179-180 display how Polly makes an inference (Enfield, 2011) when she demonstrates her knowledge. Her epistemic display concerning 'such a sluice', builds on what she has first seen in the text book. Subsequently, in line 183, Wesley confirms this and adds the epistemic display that the sluice that is pointed out by Polly, is a 'block thing'. In line 187, Wesley elaborates on the given information by asserting that there are different types of sluices. Here, he successively demonstrates his knowledge by explaining that the one on the picture has a door, and Polly then demonstrates her understanding by imitating the proposed movement of that sluice door (line 191-192), adding the epistemic display: *that is with such an up and down*. At that point, Wesley asserts that the image represents

a kind of bridge, using the tag question "or not" in line 194, inviting confirmation with his epistemic display. After reading aloud fragments of information and discussing images in the text book, one student starts dictating sentences, while the other student writes them down. The examples of how students expand on given knowledge (both from peers or from texts), are representative for the different kinds of expansions that can be found in our data.

Expansions on previous epistemic displays holding new demonstrations of knowledge, are apparent in all different writing events, although writing events in which students use (online) textual sources, or create mind maps, seem to enhance this type of uptake. When students use (online) resources, like a textbook or webpages, they tend to share knowledge that builds on what is read of seen. The source, for instance an image or a heading on a news page, then functions as a trigger to display associated knowledge on the topic. An example of how epistemic displays are produced and expanded upon, was provided in excerpt 10 (Sluices). The sentence *an example of old sluice heads*, together with images in the text book, offers grounds to share knowledge about (types of) sluices and further build on these utterances. This is illustrative for how this occurs in our dataset. For example, in another writing event, two girls are taking notes from a text book about sports, and read about what 'cooling down' is. One student expands on the given information, by referring to her own habit of running more and more slowly after her sports activity, and subsequently adds that this also applies to horses after riding. Likewise, in another note-taking event, a student states that the Dutch gymnast Epke Zonderland has become the world champion, after gazing at his image when scrolling on the internet.

To recapitulate, sub sections 4.3.1 to 4.3.5 have demonstrated how different sequential contexts in (specific) writing events prompt the production of epistemic displays. We have shown how these utterances are initially produced as *accounts*, as r*esponses to different types of requests for information*, and as *other-corrections*, and in uptakes as *disagreements with* or *expansions on* previous epistemic displays of peers. We have also explained how producing epistemic displays is to some extent related to specific writing events. In short, the joint construction of lists of research or interview questions and a letter to an expert (generating accounts and argumentative uptakes) and use of textual sources (generating expansions on given information) have proven to provide profitable conditions for sharing knowledge. Additionally, we noticed in our data how creating a mind map together, may lead to explicitly inviting peers to produce epistemic displays.

4.4 Discussion

Previous research has disclosed that collaborative writing activities that are embedded in the content areas, may be beneficial for learning. This implies that participants share individual knowledge, accomplished as epistemic displays, which then becomes a source for further exploration and discussion. However, up till now, no studies were conducted to reveal how writing together evokes sharing knowledge with peers, which we aimed to disclose in this paper, by a functional analysis of the production of epistemic displays. Our study has demonstrated, from interactional data of primary school students, that participants mainly display their knowledge in responsive sequential positions, while performing different conversational actions. Enfield (2011) distinguishes between a justifying and clarifying function of assertions, and the same two central functions of epistemic displays can be discerned in our data.

Epistemic displays that are produced as *accounts* for a proposal or *(dis)agreement with a proposal or a previous display of knowledge* (in accounts or responses to requests for information), have a *justifying function*. In similar sequential contexts, students may nuance an initial idea or proffer an alternative idea, by displaying their own knowledge. These findings provide a more detailed insight into how episodes of expressing or inviting ideas in collaborative writing (Rojas-Drummond et al*,* 2016), may evoke trajectories of collaborative reasoning (Littleton & Mercer, 2010; Rojas-Drummond et al, 2006), generally characterized as *exploratory talk* (Mercer 1995; Mercer & Littleton, 2007). Contexts in which students generate questions together, have proven to be particularly advantageous for evoking patterns of discussing epistemic displays in extended proposal sequences. Sharing knowledge is evoked when students defend or discuss proposals for content, which may then lead to subsequent displays of knowledge in argumentative positions. Both accounts and argumentative uptakes are less likely to appear in other writing events in our dataset. This latter outcome may be attributable to the fact that these genres, except for the mind map, aim at writing down information that is (to a great extent) in the domain of shared epistemic access (Heritage, 2012b). This means that the students are writing about information that was gathered collaboratively, based on shared experiences, for instance from a field trip, or about given information in (online) sources that is accessible to all participants. This is fundamentally different from situations where students have to share individual knowledge with each other, in order to arrive at shared ideas, that must be agreed upon by all participants. As concerns the mind maps, argumentative sequences are limited to debating the relevance of each other's contributions (see also Herder et al., 2018b), but this does hardly provoke extended discourse on the propositional content of the epistemic displays. The fact that only loose words or short sentences may be added to a mind map, in combination with the

underlying possibility to expand endlessly (which is not the case in other genres), may also be a reason that accountability is not an issue.

In our data, epistemic displays with a *clarifying function* (Enfield, 2011), are responses to requests for information, other-corrections, and expansions on previous displays of knowledge. Patterns that occur when students produce epistemic displays in a *response to requests for information*, resemble the different types of question-answer sequences in teacher-student interaction (Koole, 2010; Margutti, 2006). *Other-corrections* are also produced in a responsive position, after an epistemic display of a fellow student, that appears to be holding incorrect information. *Expansions* on given information, being a previous epistemic display or for instance information in a text book, demonstrate a progression from unelaborated statements to more elaborated facts and explanations (Zhang, Scardamalia, Reeve & Messina, 2009). Considering these findings from the perspective of collaborative writing-to-learn, the analysis of how subsequent demonstrations of knowledge are produced in expansions, indicates how building on each other's' ideas (Klein, 2014; Vass et al., 2008) is sequentially brought into being. Expanding on the epistemic display of another student, implies acknowledgement of the propositional truth of what was said by a peer, or what is read in (textual) resources, a context in which producing subsequent epistemic displays is particularly prompted. Additionally, a similar type of talk was observed when students create a mind map together: demonstrations of topic knowledge are produced extensively as consecutive contributions to the mind map. Uptakes of epistemic displays that consist of expansions with new ideas, exemplify how so called *cumulative talk* (Mercer & Littleton, 2013) emerges sequentially, in which joint chains of associations (Vass et al., 2008) can be discerned. Our data shows how valuable for learning this form of peer talk is as well, since students explore a research theme from various wide-ranging perspectives, and, as they continue to build on each other's knowledge, draw on and connect different sources of knowledge.

A noticeable phenomenon in events in which students created mind maps, was the fact that individual students tended to take on a role as facilitator (Nissi, 2015), explicitly inviting peers to show what they know. In Conversation Analysis, the notion 'participation' (Goffman, 1981) is used to refer to "actions demonstrating forms of involvement performed by parties within evolving structures of talk" (Goodwin & Goodwin, 2004, p.222), and provides a framework for the analysis of action that takes into account the multiple resources (e.g. talk, gesture, gaze, etc.) used by participants in situated activities (Melander, 2012a). We have noticed that when students create a mind map together, a specific participation framework occurs. The student who adopts a facilitators' role then asks for instance *can you think of one more?*, allocating turns by gazing at one of his peers, or *what should I add* ?, with which he places responsibility for new contributions with his fellow students. Use of the personal pronoun *I*, instead of *we* (emphasizing mutual

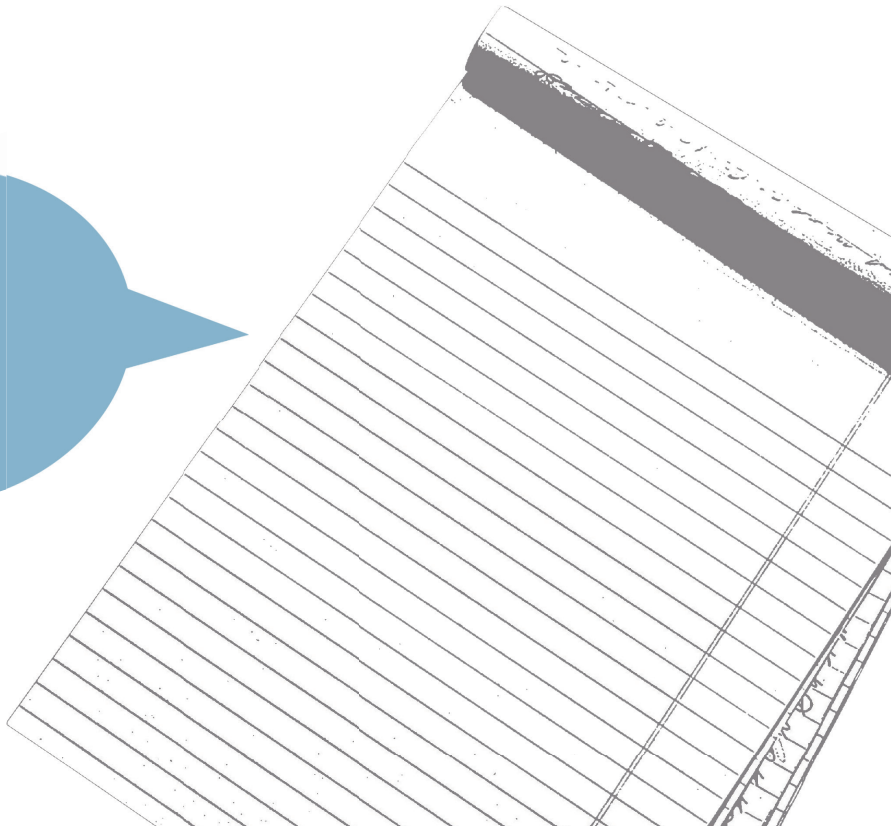
responsibility), seems to mark this specific, individual role as a facilitator. Thus, when creating a mind map, students are not only explicitly invited to promptly show knowledge, but it is also apparent that the student who invites the fellow students to do so, does not or hardly produce epistemic displays himself. In our dataset, this specific way to socially organize (Goodwin & Goodwin, 2004) the writing together, may be driven by the fact that students worked in mixed age groups during their research projects. In our cases, we observed how the oldest student often adopts the facilitators' role.

Regarding the *propositional content* of the epistemic displays produces by the 8-12 year old's, our data illustrate how students share both knowledge from personal, everyday life, and knowledge that children may have acquired in the school context, or more specifically during the current research projects. The ways in which students continuously switch between knowledge that originates from experiences both within and outside the classroom (Houen et al., 2017), shows how all these aspects of knowledge are to a great extent intertwined, indicating the manifestation of dialogic spaces (Alexander, 2008; Wegerif, 2011), in which students transcend the immediate here and now. In addition, from the perspective of inquiry learning, our study confirms how this didactic approach may stimulate making connections between the everyday and the scientific (Littleton & Kerawalla, 2012). As follows, the use of joint, functional writing tasks in the context of inquiry based learning, or framed more broadly in content-based areas, is an adequate tool that evokes children to share, build on and discuss their knowledge with each other. Teachers may employ different types of writing activities as described in our dataset for these purposes.

A phenomenon that we have addressed only on the side in our paper, is how students position themselves in terms of epistemic stance (Heritage, 2012), which includes degrees of certainty of knowledge, and degrees of commitment to the truth of propositions. Participants may use certain sequential, linguistic, prosodic and non-verbal features of a turn to modulate their epistemic stance on an axis from *not knowing* to *knowing* (Morek, 2015). This may play a role in how producing epistemic displays in the context of collaborative writing, brings about processes of individual and shared knowledge building (see for instance Jakonen & Morton, 2015; Kämäräinen, Björn, Eronen, & Kärnä, 2019). As Enfield puts it: "an individual's knowledge is grounded in access, and is measured by authority" (Enfield 2011, pp.302-303). Further analysis of our data, may well explore how (dealing with) epistemic stance of participants plays a part in processes of sharing and discussing knowledge, which is significant for our increased understanding of epistemics in conversations of collaboratively writing children.

4.5 Conclusion

In this study, we have demonstrated how epistemic displays are made relevant in particular sequential contexts in an ongoing writing activity of primary school students (aged 8 to 12 years). Our Conversation Analytic exploration of the conversational data, first disclosed how producing epistemic displays accomplishes different actions: (i) accounts (for a proposal, agreement with a proposal, rejecting a proposal or for an other-correction), (ii) responses to different types of requests for information, (iii) other-corrections, and in the uptake of previous epistemic displays: (iv) disagreeing and (iv) expanding. The analysis provides a detailed account of how collaborative writing evokes sharing knowledge, and how subsequent processes of joint reasoning and expanding are realized in the uptake of epistemic displays. As an additional step, we explored how producing epistemic displays may be related to different writing activities. Notwithstanding the relatively limited sample, we found that specific features of writing activities, may influence the extent to which epistemic displays are produced and discussed. Defining characteristics are: the necessity of producing accounts in proposal sequences, the use of (online) textual sources which provokes expansions, and the appearance of a specific participation framework, in which students explicitly invite peers to produce epistemic displays. The nature of the knowledge that students share, ranges from personal, everyday knowledge to special subject knowledge, that originates from both within and outside the school context. Our findings may support teachers' decisions on how to employ collaborative writing activities in the context of content-based activities, when sharing and discussing world-knowledge is the focal point of that activity. Further research could usefully explore in more detail the ways in which epistemic stance of students may play a part in sharing and discussing knowledge.



5

Conversational functions of 'I know', 'you know' and 'we know'

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Abstract

This paper discusses how primary school students, who are writing together in the context of inquiry learning, explicitly orient to knowing of oneself and others within the peer group. Using Conversation Analysis, we disclose the conversational functions of assertions holding 'I know', 'you know' and 'we know'. First, students position themselves as knowledgeable, to (i) express a preannouncement of a proposal, (ii) respond to a request for information and (iii) reinforce an assertion with use of an evidential. Second, students claim equal epistemic access, as a response to an action that conveys epistemic authority of a peer. Third, students indicate shared knowledge with other participants, to (i) pursue agreement, (ii) check the epistemic status of a co-participant, (iii) reject a proposal for grounds of relevance and (iv) mark shared, newfound knowledge. The different practices are discussed in terms of epistemics in conversation and dialogic writing.

5. Conversational functions of 'I know', 'you know' and 'we know'

5.1 Introduction

The aim of this study is to understand how primary school students (aged 8-12 years old), who are writing together in the context of projects for inquiry learning, orient to knowing of oneself and others within a peer group. Focusing on how students relate to 'having knowledge', will help make a significant contribution to our current understanding of how orientations to epistemic access and stance function in the design of actions in peer talk and more specifically in the context of collaborative writing. When students expose what they know by producing epistemic displays (Herder, et al., 2020), both symmetries and asymmetries of knowledge (Heritage & Raymond, 2005; Heritage, 2012a; Mondada, 2011) may become apparent, since each student brings in his own knowledge, that originates from experiences both within and outside the classroom (Hedegaard 2008; Houen, Danby, Farrell, & Thorpe, 2017). In our data, we noticed how students explicitly designate 'knowing' of oneself and others, by using the epistemic verb (Kärkkäinen, 2003) 'to know' in various linguistic constructions. The children refer to their own knowledge with 'I know', and to knowing of peers with 'you know' and 'we know'. This is an interesting phenomenon to study in more detail, since knowledge has important implications for managing social relationships: 'In social interaction people orient to asymmetries in their relative rights to know about some state of affairs (access) as well as their relative rights to tell, inform, assert or assess something, and asymmetries in the depth, specificity or completeness of their knowledge' (Stivers, Mondada & Steensig, 2011, p.13). The current study aims to understand how moral facets of having and sharing knowledge within a peer group are made relevant by the 8 to 12 year old participants, and intends to contribute to conversation analytical research on epistemics in interaction (Heritage & Raymond, 2005; Heritage, 2012a), which provides the theoretical and methodological grounds for this research. According to Stivers et al. (2011), our current knowledge about how epistemic positions are taken through language and embodied action, is largely based upon studies that have been carried out from the tradition of Conversation Analysis (Sacks, Schegloff & Jefferson, 1974), henceforth CA. The specific context of collaborative writing events in the context of inquiry learning is particularly interesting for analysing the occurrences with 'know', since the participants have to share and discuss their knowledge (see also the section on Data and method), in order to reach agreement on text content and linguistic translation (Flower & Hayes, 1980; Vass et al., 2008) and accomplish their joint writing

goals. And although several studies have established that writing in small groups or dyads can be beneficial for content learning (Rojas-Drummond, et al., 2008; Rojas-Drummond, et al., 2020; Donahue & Lillis, 2014; Klein & Boscolo, 2016; Van Steendam, 2016), up till now no explicit attention was payed to how participants relate to 'knowing' of oneself and others within these contexts, and thus to how moral dimensions of knowledge may play a role in the interaction. In the following, we will first provide background information on these dimensions, after which we will focus more specifically on previous studies on the use of 'know', as an introduction to our analysis of 'I know', 'you know' and 'we know'.

5.1.1 Dimensions of knowledge in interaction

Within the strand of CA research, three dimensions of knowledge are identified to be treated as salient by interactors: *epistemic access*, which refers to knowing and degrees of certainty, *epistemic primacy*, concerning the relative rights to know or claim, and *epistemic responsibility*, which has to do with social norms regarding for instance the obligation to know what is in the domain of shared epistemic access or common ground (Clark, 1996; Heller, 2018), that are conveyed through recipient design of actions and turns (Stivers et al., 2011). Early studies of Goffman can be considered as groundwork on rights and territories of knowledge in interaction. In Goffman (1967), he explained how participants do interactional work to maintain 'face': their own face (self-respect) and the face of others (considerateness). Conversational partners are not only attentive to each other's face, but also to the distribution of knowledge among their addressees, and they tailor their utterances accordingly (Laury & Helasvuo, 2016). Stivers et al. (2011) clarify how this is done in terms of *alignment*, cooperative responses that facilitate the proposed activity or sequence, matching the formal design preference of the turn, and *affiliation*, responses that cooperate at the level of action and affective stance. In the course of an interaction, participants may take on different epistemic positions on a gradual axis from 'unknowing (K-)' to 'knowing (K+)' (Heritage & Raymond, 2005; Heritage, 2012a), which is generally referred to as *epistemic stance*. Epistemic stance, "concerns how the participants make relevant and manage epistemic states as part of constructing themselves as knowing and unknowing" (Melander 2012, p.234), which includes degrees of certainty of knowledge and degrees of commitment to the truth of propositions (Enfield, 2011; Morek, 2015, Pomerantz, 1984). For instance, an authoritative, expert-like epistemic stance, is in essence interactively organised (Kärkkäinen, 2003), and has proven to be highly routinised in terms of linguistic forms (Fox et al., 2002; Keisanen, 2007; Schleppegrell, 2001; Sidnell, 2012). Heller (2018) demonstrated how gaze and embodied stance are conveyed in peer talk, and concerning the sequential organisation of talk, Heritage and Raymond (2005) established how expressing assertions or assessments in a first position, implies a claim of epistemic primacy. The speaker claims first-hand knowledge (Pomerantz, 1980) and

appeals to the social norm that participants with more detailed and in-depth knowledge on a specific domain, have primary rights to make assertions.

Thus, having and sharing knowledge in interaction, has moral dimensions in terms of rights and responsibilities. What interlocutors are to each other is presumed to be part of their common ground (Clark, 1996); Stevanovic and Peräkylä (2014) explain that this is based on sociocultural knowledge (known information within a given community), personal knowledge (knowledge of which participants assume everyone knows), and local knowledge (resulting from the participants' local interactional contributions). The authors introduced a theoretical framework in which not only knowledge and power are considered for how participants orient to each other in social interaction, but also emotion. The authors contend that three facets of the participants' momentary relationships pertain to the organisation of action: an epistemic facet, a deontic facet that refers to the participants' entitlements to impose actions on their co-participants (Stevanovic & Peräkylä, 2012), and an emotional facet concerning the emotions that the participants are allowed or expected to express to their co-participants. The epistemic, deontic and emotional facets are deployed as resources of action recognition, and the authors analyse common ambiguities to demonstrate how social relations are being anchored in these three orders.

Given the moral and social dimensions of having and sharing knowledge, a fine-grained analysis of how students make 'knowing' and the right to know interactionally relevant, is needed. This may contribute to our understanding of how intersubjective orientations are shaped in writing practices in school settings and generate new insights into the role of epistemics within this dialogic context (Alexander, 2008; Wegerif, 2011), that aims at reaching shared understanding of a task, sharing ideas, and supporting and encouraging each other to contribute and to value all contributions (Littleton & Mercer, 2010; Mercer & Littleton, 2013; Rojas-Drummond et al., 2020; Vrikki, et al., 2019). CA-informed studies on epistemics in student-student interaction have shown the role of epistemic positioning in the social organisation of an event and in reaching shared understanding between participants (Back, 2016; Heller, 2018; Kämäräinen, et al., 2019; Melander, 2012). A relatively large proportion of the studies paid attention to how these trajectories are shaped by initial actions that convey a less knowledgeable (K-) position, for instance how epistemic work is steered and leads to resolving emerging knowledge gaps or epistemic asymmetry by information requests to mobilise help from a peer (Jakonen & Morton, 2015; Melander Bowden, 2019), by sequential patterns of help-seeking interactions (Svahn & Melander Bowden, 2019), or by polar and wh-interrogatives (Kämäräinen et al., 2019). In our study, we will focus on the perspective of 'being knowledgeable' (K+), by analysing how 'I know', 'you know' and 'we know' are used in sequences of peer talk. And although it is evident that interlocutors have a range of options to express their stance towards knowledge of themselves and others, in this

study we will focus exclusively on the most explicit way to refer to 'knowing', being the use of the epistemic verb 'know', in positive constructions (having knowledge). In the following, we will discuss earlier studies that have analysed linguistic constructions with 'I know' or 'you know' in data of adult conversations. To our knowledge, no specific CA research was conducted with use of 'we know' as a focal point.

5.1.2 Previous research on the conversational use of 'I know' and 'you know'

Mikesell, et al. (2017) state that earlier studies have shown how *I know* is used to resist the news value or informativeness of what is being said, or to indicate a general agreement or understanding on the basis of prior knowledge. The authors studied a stand-alone 'I know', as a response to actions in a prior turn that conveys epistemic asymmetry. In these cases, the action of the first speaker, for instance advising, is treated as unnecessary (viz. violating the principle of recipient design, by displaying the presumption of an unknowing recipient), although the grounds of the action are accepted. With an 'I know'-response, the recipient expresses an 'assertion of knowledge or competence' (Heritage & Sefi, 1992), claiming to have already independent access to the knowledge at hand. Likewise, responding with 'I know' to an assessment, claims knowledge of the propositional content (Enfield, 2011) of the assessment, endorsement of the evaluative stance, and access to the ground of the assessment. 'I know'-receipts may also function as a claim of both shared understanding and prior knowledge, and may have a strong function in affiliating with co-participants (MacMartin, Coe & Adams, 2014). Heller (2018) points to the fact that previous studies are all on 'I know' in responsive positions. However, in her own data, Heller found the use of 'I know' in an opening turn, and explains that in this case, the speaker displays an already determined and non-negotiable epistemic stance.

Instead of emphasising one's own epistemic access with a speaker-oriented stance marker, participants may explicitly address the recipient's knowledge, by using 'you know'. Apart from a literal usage of 'you know', Keevallik (2003) describes three different functions: informing as a pre-announcement, projecting a news delivery, and appealing to the recipients' knowledge and involvement. The latter use has moral aspects in terms of epistemic responsibility, which is also in focus in the study of Asmuβ (2011), who shows the moral aspects of 'you know' in terms of aligning and affiliating actions in an otherwise disaffiliating context. Appealing to shared knowledge with 'you know', draws attention to presupposed knowledge and can be seen as an attempt to locally establish agreement. 'The appeal to shared knowledge relates to questions of morality, as proposing shared knowledge prospectively implies that the co-participant can agree, and retrospectively implies that s/he probably should have displayed agreement before' (Asmuβ 2011, p.234). Asmuβ found that different actions are achieved with 'you know' depending on both turn-placement and the sequential location. Exploring the use of 'you know' as an interactional

resource in a design workshop, Landgrebe (2018) described how 'you know' invites for further involvement of co-participants and shared epistemic stance.

5.1.3 The current research

This section has attempted to provide a concise overview of CA literature on the role of knowledge in interaction, demonstrating the moral dimensions of epistemic access, primacy and responsibility, in terms of alignment and affiliation. We focused on studies that explored the use of the epistemic verb 'know' (in positive constructions). The main question is: what is the conversational function of utterances with 'I know', 'you know' and 'we know' in the context of dialogic writing of 8-12 years old? The outcomes intend to contribute to CA research on epistemics in conversation (Heritage & Raymond, 2005; Heritage 2012a; Stivers et al., 2011), particularly concerning the use of 'know', and to the socio-cognitive field of research on collaborative writing and learning in a dialogic context (Donahue & Lillis, 2014; Klein & Boscolo 2016; Rojas-Drummond, et al., 2016; Rojas-Drummond, et al., 2020), in terms of how explicitly referring to differences and similarities in 'having knowledge' within a peer group, may have implications for managing epistemic relationships.

5.2 Data and method

Data for this study consist of 38 video recordings of small groups of children in grades 2-6 of six primary schools in The Netherlands, engaged in collaborative writing and in the context of inquiry learning (Bereiter, 2002; Littleton & Kerawalla, 2012). Collaborative writing can be defined as "all activity and communication surrounding the construction of texts by multiple contributors, whether written or spoken, and whether planned or incidental" (Bremner, et al., 2014, p.151). These activities were embedded in a larger, multi-annual project (2012-2015), conducted by the Centre for Discourse and Learning of NHL Stenden University of Applied Sciences, organised according to the principles of Educational Design Research (Collins, Joseph, & Bielaczyc, 2004; Plomp & Nieveen, 2007), and designed to acquire better understanding of how peer talk contributes to language proficiency and to aspects of knowledge building. The students worked in small, mixed age groups on small-scale projects on their own research questions, for about three weeks in two periods each year. A total of 76 students from middle grades (48 participants, aged 8-10 years old) and upper grades (28 participants, aged 10-12 years old) were involved in the writing events. We define a 'writing event' as a series of goal-oriented communicative actions to create a text together.

The research themes of the projects for inquiry learning were for instance: Regional history, Machines and Appliances, Sports and Games. Since almost all writing activities

were unplanned but dependent on then and there, choices of the students concerning the use of writing, and performed without specific instructions or guidance of teachers, we were able to capture naturally occurring peer talk. When students wrote a letter, the teachers provided them with an instruction-card holding information about structuring a letter. The total time of the recordings is 7h and 34m, with an average of around 11 minutes for a writing event. Over the course of 30 events, written products were created using pen and paper. In eight cases students used a word processor or presentation program on a desktop computer: for writing notes (five events), a report (two events) and for creating a PowerPoint presentation (one event). Table 1 provides an overview of the different writing events, categorised in terms of the intended written products.

Table 1. Overview dataset

Written products	Main activity	Number of events
Plan of action	Articulating research questions in learning log	6
Reflection	Reflecting on activities or progress in learning log	3
Mind map	Exploring a new research topic	3
List of questions	Formulating questions for an interview	3
Letter	Writing a letter to collect information	6
Notes	Taking notes while reading (online) source texts	8
Story	Writing a story about research findings	2
Report	Writing an informational text about findings	3
Poster	Writing short texts or captions at pictures	3
PowerPoint	Writing short texts in a presentation	1

All video recordings of the collaborative writing events were transcribed using CA-conventions (see appendix A) and analysed according to the Conversation Analysis (CA) method of research (Ten Have, 2007). All data were anonymised. We first selected the utterances holding the verb 'know', together with the personal pronouns *I*, *you* (singular) and *we,* in all possible, positive conjugations. This enabled us to compile three sub-collections (Clift & Raymond, 2018; Mazeland, 2006) of utterances, 'I know', 'you know' and 'we know', that were subsequently analysed in terms of linguistic formatting, turn placement (turn-initial, turn-medial, turn-final, as a separate turn; Kärkkäinen, 2003), sequential position (Schegloff, 2007), and the uptake by co-participants (Enfield & Sidnell, 2017). In this paper, the notion *practice* refers to the verbal, vocal, bodily, or material resources that form and accomplish an action, and *actions* are what participants do in interaction (e.g. requesting, inviting, proposing, correcting): "multiple practices of turn design, lexical choice, intonation, and sequential position frequently get orchestrated, in context-sensitive ways, to achieve single practices of action" (Robinson 2007, p.68). The analysis of all selected utterances with 'know', disclosed how students accomplish actions and negotiate interpersonal trajectories (Schegloff, et al., 2002) when talking and writing

together, in other words: why referring to 'knowing' of oneself and others is considered relevant at that specific point in the conversation.

5.3 Results

We found 94 instances with use of the verb 'to know' (present and past tense) in our data, with the following distribution: 70 instances with 'I know', 16 instances with 'you know', and 8 instances with 'we know'. Different practices can be differentiated, concerning linguistic construction and turn placement, in both initiating and responsive positions, performing various conversational actions. These actions are all embedded in the cyclical process of writing, consisting of the three recursive phases of planning, translating and revising (Flower & Hayes, 1980; Hayes, 1996; Hayes 2011), which is observable in peer talk (Rojas-Drummond, et al., 2008; Vass, 2007), and strongly driven by sequences of proffering and discussing proposals (Herder, et al., 2018a). One type of utterance with 'you know' in an interrogative format, was used to invite peers to come up with new ideas (nine instances), for instance: 'do you know one more?' or 'do you know anything else?'. We have excluded these utterances from further analysis in this paper, since we are primarily interested in positive claims with 'know' that are done as assertions, displaying an explicit orientation to knowledge. This limits the dataset for this study to 85 instances, with which we were able to uncover three main categories of how participants relate to each other in terms of epistemic stance, with use of 'know': positioning oneself as knowledgeable, claiming equal epistemic access, and indicating shared knowledge with other participants. In discussing our results, we will take these three categories as a point of departure (see the three main subsections), to show how this is accomplished by the students, with use of different conversational practices (see italicised subheadings).

5.3.1 Positioning oneself as knowledgeable

In this section we will demonstrate three different practices with use of 'I know' in various linguistic constructions, with which students position themselves as a knowledgeable member of the peer group, by (i) producing a pre-announcement to introduce a subtopic, (ii) providing a response to a request for information and (iii) reinforcing an assertion.

i Introducing a Subtopic with 'I know one (more)' or 'I know it/ something'

When students are generating ideas for the text, the use of a turn-initial 'I know' was found in utterances that are sequentially positioned as a pre-announcement, functioning as a prelude to a proposal. The most frequent format is 'I know one' or 'I know one more'. Variations are 'I know it' or 'I know something'. This may be done after an explicit request for new contributions, such as 'okay shall we think of some new questions now?', or as

an initial action after a short silence or during a non-verbal activity. An example of a plain 'I know one more' can be found in expert 1, in which two students are generating interview questions for the resident of the oldest house in the village, as part of their research project on local history. In line 24, Jolene proposes the question: *in what year were you born*? Matt accepts the proposal by nodding his head, and then Jolene start to write down this new question. While she is writing, Matt announces another idea in line 28: 'I know another one' (in Dutch 'Ik weet er nog wel één', in which the adverbs 'nog wel' indicate an accumulation). The utterance occurs in a multi-activity context (Mondada & Svinhufvud, 2016), since Jolene is writing at the same time.

(1)

24	Jolene		in welk jaar bent u ge ↑bo:ren
			in what year were you ↑bo:rn
25	Matt		**[((nods))**
26	Jolene		**[((starts writing))**
27			(13.0)**((Jolene writes))**
28	Matt	→	ik weet er nog wel één ((Jolene schrijft))
			I know another one ((Jolene writes))
29			(1,0)**((Jolene writes))**
30	Matt		ehm (.) hoevee- (.) hoeveel jaren (.) hoeveel eh jaren
			um (.) how ma- (.) how many years (.) how many um years
31			woont u al >in deze boerderij,< ((Jolene schrijft))
			have you already lived >in this farm,< ((Jolene writes))
32			(.) **((Jolene stops writing))**
33	Jolene		°nee die vraag hebben we al.°
			°no we already have that question.°
34			(21.0) **((Jolene writes))**

Matt's pre-announcement projects the next action, that is performed in lines 30 and 31: proffering a new proposal for an interview question (which is rejected by Jolene in line 33, who claims that they have already written down that question). In the above fragment, Matt does not wait for a response or a continuer after his pre-announcement, but instead continues his action after a short pause (line 29) in which Jolene continues writing. We have observed the same pattern in cases of small groups of three or four students, in which a participant announces a new contribution, while another group member is still writing. What happens next, is that the student who performed the pre-announcement gets the 'conversational floor', immediately after the writing is done. This indicates that accomplishing a pre-announcement with 'I know' during silent writing, which projects a

next action of uttering a proposal for the text, is a way to resume the organisational agenda (Boden, 1994) of generating ideas for text content, and to secure an extended turn.

ii Responding to a Request for Information with 'I know that (already)' or 'I know (that)' + [PART]
In specific contexts of the inquiry learning projects, when students are generating questions (for an interview, a letter, or research questions), new proposals are generally expressed in an interrogative construction. For instance, students do not propose a new interview question as 'shall we ask a question about when the house was built?', but directly as the intended question: 'when was your house built?'. As a response, recipients tend to answer the proposed question, thus treating the proposal as a request for information (Herder et al., 2020). In some cases, the response is initiated with 'I know that (already)', with which a student emphasises his knowledgeable position. We will demonstrate how this type of utterance evokes an uptake that is merely focused on moral aspects of knowledge distribution among the participants. Excerpt 2 shows three students who are working on their project on Kings' Day, and creating a PowerPoint presentation that holds a quiz for their class-mates. In this fragment, a proposed question for the quiz is treated as a request for information. In line 42, June proffers to include the question 'which day is Kings' Day?'.

(2)

42	June		welke dag is koningsdag, **which day is Kings' Day,**
43	Simone		↓ja maar hebben we daar wel een antwoord op, **↓yes but do we have an answer to that,**
44	Levi	→	ja dat wee↓ weet ik ↓al zevenentwintig april. **yes I kno- know that ↓already twenty-seventh of April.**
45	Simone		dat is toch makkelijk **that is just easy**
46	June		ja veel te makkelijk (.) ((gaat voorlezen)) waarom is het **yes much too easy (.) ((starts reading aloud)) why is it**
47			↑koningsdag **↑Kings' Day**

Simone questions whether or not they have the answer themselves, and then Levi claims with a prosodically marked 'I know', that he knows the answer already, which he demonstrates (Koole, 2010) on the spot: on the twenty-seventh of April (line 44). Immediately after this, Simone claims that this is easy, which June confirms, indicating that the question is much too easy. She then initiates a new topic by reading aloud

another question, implying that the idea to ask about the date is off the table now (lines 46-47). Surprisingly, the negative assessments of the two girls contradict what they have said previously (lines 42-43). These responses, in which they take an authoritative stance concerning the level of difficulty of the knowledge at hand, with which Simone and June orient to the epistemic order (Stevanovic & Peräkylä, 2014), may be triggered by how Levi positions himself as being more knowledgeable than his peers. Thus, emphasising one's own knowing with use of a turn-initial and stressed 'I know' when providing an answer to a proposed question, seems to create a competitive context in which other students tend to take a knowing stance as well.

Another type of response to a request for information with use of 'I know' is a linguistic construction in which the verb 'know' is combined with the Dutch particle (PART) 'wel', which in this case indicates the partiality of the response. The student is not able to provide a full answer, which he marks with use of this specific particle. This construction is found in both turn-initial and turn-final positions, but we noticed that this turn-placement is not differentiating for what it accomplishes. An example of this type of response to a request for information, is given in excerpt 3. The fragment displays four students who are creating a PowerPoint presentation about their Halloween project, and meanwhile looking for information on the internet on a second computer, that is operated by student Marian. Ben is creating the PowerPoint presentation and the group's learning log is put in front of his keyboard. Anouk is sitting behind Ben and Marian, together with the fourth student (who does not participate in the conversation that is displayed in the excerpt). In line 74, Ben puts himself in an unknowing position by articulating the question 'who invented it?'. This utterance, positioned as a first-pair part of a question-answer sequence, projects a conditionally relevant next action, being a response containing the name of the inventor of Halloween.

(3)

71	Marian		ik °ga even verder lezen en° (dan) uh: ((leest hardop
			I °will continue reading now and° (then) um: ((reads
72			voor)) >het Ierse woord voor de maand ↓november< (.) het
			aloud))>the Irish word for the month ↓November< (.) that
73			is een eh: ((stopt met lezen))
			is an um: ((stops reading))
74	Ben		wie heeft het bedacht, ((gazes in learning log))
			who invented it, ((gazes in learning log))
75			(1.6) **((Ben is typing))**
76	Marian	→	dat is een ma:n. dat weet ik wel
			that is a ma:n. I know that [PART]
77	Anouk		ja maar daar >moeten we dan nog< meer over vertellen,
			yes but we >also have to< tell more about that,

After a short pause (line 75), Marian aligns with the projected action, by realising the expected second-pair part of the sequence, although she marks that she does not provide a full answer. The turn-final placement of 'I do know that', indicates that she marks herself as 'partially knowing' (Keevallik, 2011). However, in line 77, Anouk acknowledges the provided answer ('yes'), and then reminds Marian of a necessitated next step, with which she demonstrates procedural knowledge of the activity and to some extent confirms that the response is not entirely adequate. This excerpt shows how all participants are explicitly oriented to the knowledge that is required to accomplish the collection and writing of information about their research theme, and that participants position themselves in relation to each other with reference to that knowledge (Melander, 2012). Also, Marian's response may indicate that she tries to present herself as being a knowledgeable member of the group, despite the incomplete answer, in other words trying to save or maintain 'face': "the positive value a person effectively claims for himself by the line others assume he has taken during a particular contact" (Goffman, 1967, p.5).

iii Reinforcing an Assertion with 'I know this because …'

The third practice that conveys and stresses a knowing position, is observable when students take an authoritative stance with use of 'I know', by claiming knowledge that accounts for an assertion in an argumentative position. In these contexts, that are particularly found in proposal sequences when generating ideas for the text, 'I know' appears in turn-medial positions, and the utterances are supported by evidentials, in terms of source-based or status-based authority (Enfield, 2011). When students account for their knowledge, the utterances are generally formatted with the use of 'because' or 'so', after which an evidential is articulated following the epistemic display. The use of 'I know' in these particular contexts, puts emphasis on the truth of an epistemic claim, and is used when participants may be approaching disagreement, or when explicit consent is not yet displayed. An example is shown in excerpt 4, in which 'I know' is expressed in the second independent clause of a compound sentence (lines 316-317). This utterance reinforces the assertion that was done as an other-correction regarding a proposal for the text. The fragment displays three boys who are writing a letter to children of a school in another village to ask for information about the history of that place. Just prior to the fragment, the students have formulated the first part of a question: 'we would like to have information'. In line 306, Elliot proposes a continuation for that question: 'about the history of your sch- of um: Antlersfield'. Travis performs an other-correction, replacing Antlersfield by the words 'your village', which provokes Elliot to question whether or not Antlersfield is a village (line 309).

(4)

306	Elliot		over de geschiedenis van jullie sch- van eh: Antlersfield
			about the history of your sch- from um: Antlersfield
307	Travis		nee van jullie dorp.
			no of your village.
308			(0.8)
309	Elliot		>is het een dorp dan,<
			>is it a village then,<
310	Mel		ja tt.tt. ((*legt potlood neer*))
			yes tt.tt. ((puts down pencil))
311	Travis		°Antlersfield is [een dorp.°
			°Antlersfield is [a village.°
312	Mel		[Antlersfield is ↑superklein
			Antlersfield is ↑supersmall
313	Travis		ja daar woont mijn [oom.
			yes my uncle lives [there.
314	Mel		[↑vroeger niet toen was het heel
			[↑not in the early days then it was
315			groot. (.) groter dan Leopar[dey
			very big. (.) bigger than Leopar[dey
316	Travis		[daar woont mijn oom (.)
			[my uncle lives there (.)
317		→	en ik weet dat het een dorp is.
			and I know that it is a village.
318	Elliot		Oké.
			Okay.
319	Mel		°een heel klein dorpje°
			°a very small village°

In this example, Travis claims first-hand knowledge, by referring to the fact that he has personal connections in Antlersfield, since his uncle lives there (line 316), and this functions as an evidential to support his claim that it is indeed a village. In doing so, Travis takes a knowing position based on source-based authority (Enfield, 2011), which seems to be provoked by the lack of consent from Elliot, who raised doubt (Pomerantz, 1984). Travis already claimed that Antlersfield is a village (line 311), and it becomes clear that he knows Antlersfield personally because his uncle lives there (line 313). However, Elliot has not yet displayed agreement, which triggers Travis (despite Mel's supportive contributions) to repeat the grounds for the truth of his claim, and to reinforce it with use of 'I know' (lines 316-317). In the next turn, Elliot does show agreement, leading to a final decision to write down 'village' (not in the transcript). So, in contexts where agreement is not immediately forthcoming or doubt is raised, students account for their knowledge with utterances using 'I know', that reinforce the truth of their epistemic claims.

This section has demonstrated how students claim (partial) knowledge and epistemic authority with use of a turn-initial, turn-medial and turn-final 'I know' in different sequential positions. In the following sections we will focus on how students indicate their epistemic access in relation to the knowledge of their peers, in terms of similarities in epistemic access.

5.3.2 Claiming equal epistemic access

A recipient may claim to have equal epistemic access with a first speaker, in utterances that are constructed with 'I know' or 'I know that', 'I know + account' , or 'I do know that' in responsive positions. These utterances occur in response to procedural proposals when students discuss the organisation of the task, assertions of fellow students, and instructions or other-corrections (Jefferson, 1987) concerning linguistic issues in the written text. We will discuss the different contexts in which students claim to have independent and prior knowledge, and demonstrate that epistemic primacy and responsibility are negotiated within these sequences. 'I know'- responses claim equal epistemic access and mark the given information as 'not new', and as our examples (excerpts 5 and 6) will show, the nature of the knowledge at hand determines the use of a stand-alone 'I know' or 'I know' accompanied by an epistemic display (Herder et al., 2020), which then functions as an account.

Use of a turn-initial 'I know' in responsive positions, may be used to claim equal, independent and pre-existing epistemic access. 'I know'-responses are found when participants respond to an (unsolicited) instruction on procedural or linguistic issues, other-corrections or specific knowledge claims of peers, grounded in the domain of shared epistemic access. An example is given in excerpt 5. Two girls generate interview questions for the owner of a bar annexe camping, and in line 222 Caren proffers to ask if they had coffee in former times. Maya accepts the idea non-verbally by writing down the new suggestion (Herder, et al., 2018a), which is the seventh question (line 224). While she is writing, Caren instructs her to use two d's in the word *hadden* (had), in line 226. The moment and place at which Caren pronounces this, makes it plausible that she is trying to prevent a spelling error here. This analysis is reinforced by the fact that Maya continues to write and does not give the impression that she has to correct an error already made (which is generally marked by a short stop in the writing). To substantiate this viewpoint, it can be seen that in line 224 Caren also gave an instruction as to where Maya should write down the new sentence (being at 'question 7'). The utterance in line 226 seems to be a continuation of her instructing contributions.

(5)

222	Caren		hadden jullie vroeger ook (.) koffie.
			did you in former times also have (.) coffee.
223			(4.8) **((Maya is writing and Caren reads along))**
224	Caren		bij >°zeven.°< ((Maya schrijft))
			at >°seven.°< ((Maya is writing))
225			(4.0) **((Maya is writing and Caren reads along))**
226	Caren		dee dee ((dicteert))
			dee dee ((dictating))
227			(.)
228	Maya	→	>°weet ik.°< ((schrijvend))
			>°I know.°< ((writing))
229			(22.0) **((Maya is writing and Caren reads along))**

Caren positions herself as knowledgeable (line 226), by performing a spelling instruction that displays the presumption that Maya is unknowing. Maya responds to the spelling instruction with 'I know' (line 228), formatted as a separate turn, resisting the action of Caren, although she acknowledges the accuracy of what is said ('hadden' is indeed with two d's). Thus the initial action of Caren was not recipient designed, since she did not take into account the state of knowledge of her co-participant. In contexts of linguistic and also procedural instructions, for instance about the amount of questions the group has to generate before finishing their task, students mainly respond with a stand-alone, unaccounted 'I know' as a separate turn.

When responding to an epistemic claim of a peer, students use linguistic constructions with 'I know that' or 'I know' plus in most cases an account that acknowledges the truth of the initial claim. In the previous example (excerpt 5), with the use of 'I know', student Maya orients to both the deontic order and the epistemic order (Stevanovic and Peräkylä, 2014) of the social relationship. This indicates that the responsive 'I know' is in essence produced in an argumentative context. The following example will however demonstrate that the use of a responsive 'I know' is also used in more affiliating contexts. Excerpt 6 displays a fragment of the interaction between Liz, Owen, Jesse and Abby, who are generating research questions about 'farms in former times'. Previous to this fragment, Jesse proffered to ask which farm animal is the most famous, but Liz pointed out that this is similar to a question they have already written down: 'which animal is the most suitable for a farm?'. In line 152, she repeats the core of that question, and then Owen claims that the most suitable animal is a chicken.

(6)

152	Liz	het meest °geschikt voor een boerderij.°
		the most °suitable for a farm.°
153		(.)

154	Owen		da's een ↑KIP
			that's a ↑CHICKEN
155			(0.9) **((Liz gazes smiling at Owen))**
156	Liz		wij hebben ook kip- eh: kippen hoor,
			we also have chick- um: chickens PRT,
157			(.)
158	Owen	→	ja dat ↓weet ik (.)ik [ben een keer bij jullie
			yes I ↓know that (.) I [have been at your
159			↓thuis geweest.
			↓house once.
160	Abby		[**((cackles like a chicken))**
161	Jesse		[ik heb ze ook zien schreeuwen (.) eh kakelen.
			((glimlachend))
			[I have also seen them scream (.) um cackle. ((smiling))

In line 156, Liz expands on the subject of chickens, by saying that she and her family have chickens at home, followed by 'hoor' (literally 'hear'), a Dutch utterance-final pragmatic particle (represented in the transcript as PRT), that has been described as "retro-actively reinforcing or emphasising an aspect of the preceding utterance" (Mazeland & Plug, 2010, p.162). Owen then affiliates with the utterance of Liz, by responding with 'yes I know, I have been to your house once'. The responsive, turn-initial 'I know that', is complemented with an account, claiming source-based authority, which in this case proves the fact that he has equal epistemic access to the fact that Liz has chickens at home. Jesse confirms this as well, by indicating that he has seen the chickens cackle (line 161). In this example, Liz obviously has primary rights to the knowledge, yet the other students claim equal access, treating the information as 'not new'. The two boys accordingly confirm Liz's statement, which in this case seems to create an environment of confidentiality and solidarity among the three participants. This social affiliation is reinforced by the fact that the children are smiling at each other when they make their statements. Thus, the responses by Owen and subsequently Jesse seem to address the lack of newsworthiness of the initial utterance of Liz (with the use of an evidential as an overt orientation to the epistemic order of their social relationship), but can also be interpreted as affiliative displays of agreement (displaying an orientation to the emotional order). This ambiguity may be caused by the fact that the utterance of Liz ('wij hebben ook kippen') is done in a quite defensive manner (with use of the emphasising adverb 'hoor'), which may "lead the recipients to wonder what their responses actually need to deal with, in order to count as adequate responses" (Stevanovic and Peräkylä, 2014, p.196).

So, students use 'I know', whether or not complemented with an account for their claim of equal access, as a response to a knowledge claim of a co-participant. In all these cases, responding with 'I know' performs two different actions, addressing both the propositional content of the assertion and the moral dimension of the distribution of knowledge. Use of 'I know' then acknowledges the truth of what was said by a co-

participant and validates what is in the shared domain of knowledge, but also addresses the relative rights of participants to assert something. In addition to this, we noticed in other cases how students may revoke an earlier statement with use of 'I know', as a response to a disagreement with their statement or a disaffiliating response in cases of assessments. For example, when one student claims that the blue colour of the Dutch flag may differ in hue and that this is a strange phenomenon, an assessment for which he solicits agreement with a tag question, another student provides an explanation ('because not everyone has dark colours'). This utterance confirms the truth of the initial observation, but disaffiliates with the assessment. The initial speaker then immediately responds with 'I know', with which he invalidates his earlier statement that this is strange. Revoking or nuancing an earlier statement after disagreement or rejection of a peer, was observed recurrently, which indicates that 'I know' in these cases, does not address the knowledge at hand, but merely functions on the level of epistemic status.

In this section, we have demonstrated how students claim having equal epistemic access, as a response to an utterance of a peer who takes (more or less explicitly) a knowledgeable stance. In the following section, another way of referring to epistemic symmetry is in focus, that is when a student addresses shared knowledge of all participants, with use of 'you know' or 'we know'.

5.3.3 Indicating shared knowledge with other participants

The third main use of 'know' that displays a knowledgeable position, and shows how students relate to each other in terms of epistemic stance, aims at orienting co-participants to knowledge that is in the shared domain. We distinguished four different practices in which referring to shared epistemic access is made relevant. A speaker may address presupposed knowledge of other participants with use of 'you know' (i) to pursue agreement, or (ii) to indicate that certain knowledge is presupposed. Specific linguistic constructions with 'we know', explicating a mutual stance, are used (iii) to reject a proposal on grounds of relevance or (iv) to refer to shared, newfound knowledge.

i Pursuing Agreement with 'you still know' or 'you just know'

Participants may explicitly call on shared epistemic access of a recipient, by referring to specific knowledge that is supposed to be in the shared domain of knowledge. In these cases, a turn-initial 'you know' is used to call on mutual knowledge of all participants. This is done to pursue agreement in proposal sequences, as we will demonstrate with use of excerpt 7, that displays four students who are writing a story about a specific stone pole with historical value, in their village Eastingstones. At this point, a small boy who stumbles is introduced to the story, and the students start thinking about what will happen next, after Alisia reads aloud what they have written down so far (line 177). In line 180 Jonas suggests that this boy went to the attic, which is rejected by Frances (line 181). Jonas

then points Frances to the fact that she does not have the deontic rights (Stevanovic & Peräkylä, 2012) to decide this, which is interrupted by Alisia who calls on her peers to *remember* specific information concerning the story line (see line 183, which we have translated as 'you still know', to emphasise the use of the epistemic verb 'know').

(7)

177	Alisia		↓nou (.)((leest voor)) er was eens een jongetje. **↓well (.) ((reads aloud)) once upon a time there was a little boy.**
178	Megan		ja. (.) hij ↑struikel[de **yes. (.) he ↑stumb[led**
179	Alisia		[ehm hij kwa:m_ ((schrijvend)) **[um he ca:me_ ((writing))**
180	Jonas		naa:r de ↑zo:lder **to: the ↑a:ttic**
181	Frances		↓nee (.) °(daar ging hij niet) door° **↓no (.) °(he didn't go through) there°**
182	Jonas		ja (.) maar jij [°>bent niet de baas<° dus:: **yes (.) but you [°>are not the boss<° so::**
183	Alisia	→	[weet je nog (.) weet je nog jongens **[you still know (.) do you still know**
184			(.)((stopt met schrijven)) wat ehm dan was meester het **↑guys (.) ((stops writing)) what um then ↑school-master**
185			jongetje, (.) en Mary en zo die vertelde het verhaal, **was the little boy, (.) and Mary and all was telling the**
186			(.) >weet je nog,< dan was meester het ↑jongetje en hij **story, (.) >you still know,< then schoolmaster was the**
187			eh pakte twee bakken (.)>twee pannen zeg maar< waar dat **little ↑boy and he um took two ↑bins (.) >or let's say pans<**
188			paaltje van Eastingstones, (.) dus dat gaan we niet ↓doen **where that little pole of Eastingstones, (.)so we won't be doing ↓that**
189			(0.8) **((Jonas screeches))**
190	Alisia		zo is het echte verhaal. **that is the real story.**

Alisia asks her peers if they still know what their schoolmaster and Mary once told and acted out, concerning the real story about the little pole (lines 183-188). The turn-initial

placement of 'you know' serves as a projection for displaying agreement by the other participants, with her statement that they won't be following the suggestion of the attic, since that does not agree with the real (original) story (line 190). Her way of describing the shared memory as visually as possible and asking her fellow group members three times if they also still know that this event took place, strengthens the persuasiveness and invites to affiliate with the story. Moreover, the addressees are made accountable for their state of knowledge about the little pole, assuming that everyone knows the 'original story', which should provide the grounds for accepting the story line as suggested by Alisia, and to disagree with Jonas' idea of the attic. Alisia tries to establish a 'common ground' by drawing on the socio-cultural knowledge (Stevanovic & Peräkylä, 2014) of her classmates: because it concerns a story that is obviously shared in the context of school, she expects every participant to know it. Thus, calling on presupposed knowledge of peers, which addresses epistemic responsibility of peers, is a way to pursue agreement. This use of 'you know' was predominantly observed in (potentially) conflicting contexts.

Another way to refer to shared knowledge in argumentative positions, is in a linguistic construction with 'you just know', referring to general, well-known knowledge. This may be done for instance to account for a rejection of a proposal, as we will illustrate with excerpt 8, showing four students who are generating interview questions for a hammer smith. Unusually, all students write down the generated questions in this event, on separate sheets of paper. Previous to the fragment, Mike proposed to ask if the hammer smith produces dogs' trays, but Liam displayed his disapproval of that suggestion. However, Olivia supports the idea, and then Mike proffers to write it down (line 159), explicitly inviting Liam to join. However, Liam still disagrees with the proposed question and asks (line 161): 'what does it actually mean?', with a strong negative undertone. Mike repeats this utterance, most likely as a repair-initiation (Jefferson, 1987), and then Liam provides an account for his disaffiliating action, in lines 163-164.

(8)

159	Mike		>zullen we< nee gaan we opschrijven toch ↑Liam
			>shall we< no we're going to write it down right ↑Liam
160			(2,0) **((Mike starts writing))**
161	Liam		wat stelt het eigenlijk ↓voo:r. ((fronsend))
			what does it actually ↓mea:n. ((frowning))
162	Mike		((stopt schrijven)) wat stelt het eigenlijk ↑voor
			((stops writing)) what does it actually ↑mean
163	Liam	→	want je weet gewoon dat ze hondenbakjes maken, want
			because you just know that they produce dogs' trays,

164		een smid maakt alles wat van ijzer is.
		because a hammer smith makes everything made of iron.
165	Olivia	hondenbakjes kunnen ook van ijzer zijn.
		dogs' trays can also be made of iron.
166	Mike	ja. ↑en van steen.
		yes. ↑and of stone.
167	Liam	ja steen.
		yes stone.

Liam claims that 'you just know' that a blacksmith produces everything that is made of iron, including dogs' trays. The 'you' in this linguistic construction, refers to a general 'you' as in 'people know', with which Liam designs his account as a generalised assertion (Morek, 2015), taking an authoritative stance. Similar to what we noticed in contexts of reinforcing claims with use of 'I know' accompanied by accounts, students take an authoritative stance by using generalised assertions with 'you just know', in conflicting contexts where agreement does not seem to be reached immediately.

ii Indicating Presupposed Knowledge from a Co-participant with 'you know this + [TAG]'
Use of 'you know' in a turn-initial position in the first-pair part of an insertion sequence, may be used by a speaker to indicate that he presupposes that a recipient shares specific knowledge. This is demonstrated in excerpt 9, displaying Caren and Maya who were introduced in excerpt 5. The students have discussed a theatre or dance hall at the camping/ bar, and have just written down the eighth interview question 'can we see the dance floor?'. Then Maya mentions the presence of a disco ball (line 308), and Caren starts writing which suggests she will write a question about a disco ball. While Caren is writing, Maya initiates her utterance (line 313) with 'you know that + [TAG]?', which indicates that she supposes that her co-participant knows what a disco ball is. The communicative function of the Dutch particle 'hè' is to solicit agreement and strongly prefers a confirming response (Enfield, et al., 2012).

(9)

307	Caren	nja eh: ja nege[n-
		myeah um: yes ni[ne
308	Maya	[er is ook een discobal bij.
		[there is also a disco-ball.
309	Caren	nja. ((begint te schrijven))
		myeah. ((starts writing))
310		(2.4) **((Caren is writing))**
311	Caren	<he:bben> ((schrijvend))
		<ha:ve> ((writing))
312		(4.6) **((Caren is writing))**

313	Maya	→	je weet wel hè, (.) [zul]ke vierkantjes zijn op de
			you know that [TAG], (.) [such] little squares are on the
314	Caren		[mm hm]
			[mm hm]
315	Maya		vloer [·h] en daar geven ze dan lich[t.
			floor [·h] and there they give l[ight.
316	Caren		[ja.] [maar ik weet wel dat
			[yeah.] [but I know that they
317			ze daar een discobal hebben °ja°. (.)het is gewoon een
			have a disco ball over there °yes°. (.) it is just a
318			goeie vraag.
			good question.

In line 314 Caren produces a minimal response token (mm hm), and after Maya explains what a disco ball is, Caren responds with 'yeah', which is an acknowledgement token, displaying positive alignment (Gardner, 2001). She then takes the floor and claims to know that there is indeed a disco ball, which is a type of use of 'I know' that we discussed the section on claiming equal epistemic access. Caren concludes with a positive assessment of the proposed question. As this example demonstrates, soliciting confirmation that certain information is in the domain of shared knowledge, in this case personal knowledge (Stevanovic and Peräkylä, 2014), may be done to ensure that the interlocutors are 'on the same page', especially when a recipient does not affiliate with the initial utterance.

iii Rejecting a Proposal with 'we already know (that)'

In an earlier study that we conducted on the same dataset as for this current study, we found that students refer to shared knowledge of all participants with use of 'we know' as a means to reject a proposal for a research or an interview question (Herder, et al., 2018b). We will address this type of utterance again in this current paper, as part of our collection of utterances with 'know' and the personal pronoun 'we'. Claiming that certain knowledge, being the answer to a proposed question (for instance for an interview), is already in the common ground, marks a proposal for a question as irrelevant. An example is given in excerpt 10, which represents an earlier moment from the conversation introduced in excerpt 9. The students have just written down the interview question 'how do they make tools?', and after Paula finishes her writing (lines 24), Liam introduces the topic 'how the fire-machines get started' (lines 26-27), most likely as a lead-up to formulating a proposal for the next interview question. However, when Mike rejects the knowledge claim of his peer (lines 28-30), Liam withdraws his earlier statement, by indicating that they don't have to ask a question about this, because they already know the answer (line 32).

(10)

24	Paula		punt. ((stopt met schrijven))
			full-stop. ((stops writing))
25			(5.8) **((Olivia is writing))**
26	Liam		ik ↑w:eet hoe die machines van vuur aangaan daar >gooien
			I ↑kn:ow how those fire-machines get started >they
27			ze gewoon ko:len in,< en steken ze 't aan.
			just throw coa:ls in it,< and light it.
28	Mike		nee hoor, daar zit gewoon een s:oort lu:chtventi-latie (.)
			no actually, there is just some ki:nd of ai:r ventilation
29			om het vuur wat ho:ger te blazen. ((((beeldt uit met
			(.) to blow the fire a little hi:gher. ((depicts with
30			handen)) ((Olivia is gestopt met schrijven))
			his hands)) ((Olivia stopped writing))
31			(0.2)
32	Liam	→	maar we hoeven die vraag niet, want we weten het al.
			but we don't need that question, since we already know it.
33	Mike		>maar hoe ( ).< ((boze blik naar Liam))
			>but how ( ). ((angry gaze at Liam))
34	Liam	→	weet niet, (.) maar als we het al ↑weten hoeven we het
			don't know, (.) but if we ↑know it already we don't need
35			niet te te vra:gen.
			to to a:sk.
36	Mike		we weten het niet helemaal precies want misschien
			we don't know exa:ctly, because maybe
37			(doet die machine) wel ↓anders (.) dat weten we
			(that machine operates) ↓differently (.) we don't know
38			he:lemaa:l niet precies.
			that precisely a:t a:ll.
39	Paula		>maar moeten we dat dan ↑opschrijven<
			>but do we have to write that ↑down<
40	Mike		**((starts writing))**

In line 34 Liam repeats his statement (after responding to a suggestion of Mike that was not entirely audible, due to loud background noises), referring to 'that question', although an interview question had not yet been put into words (which supports the analysis that the utterance in lines 26-27 is a pre-announcement for a proposal). Mike then suggests that they do not *exactly* know how this works, which finally triggers Paula to ask her fellow

students if they need to write down a question about this, showing that a clear decision has not yet been made. Thus, although in this case a lack of complete knowledge leads to writing down the suggested question, collectively knowing the answer to a proposed question provides grounds for rejection, which is linguistically constructed with utterances holding 'we know' and 'already'.

iv Claiming or Establishing Shared Knowledge with '(now) we know'

Students use 'we know' in a turn-initial position to refer to shared epistemic access of all participants. The utterances generally close a sequence, holding a positive assessment of what is jointly achieved, and provide a concluding statement about newfound, shared knowledge, which is positioned in post-expansions. As regards the writing the students are engaged in, these type of utterances occurs when students review what has been written down so far, or in response to reading new information in (online) source texts. Excerpt 11 exemplifies how Megan positively assesses the shared knowledge as an accomplishment of the group (line 146), evoked by the previous statement that the sheet of paper is almost completely filled with their mind map on horse riding.

(11)

143	Lauren		hij is bijna ↑helemaal VOL
			it is almost ↑completely FULL
144	Lauren		[((laat papier zien))
			[((shows paper sheet))
145	Ivy		[£hoe[hoe::£
			[£whoo[hoo::£
146	Megan	→	[£hoe hoe:£ (.)£wij weten veel over paardrijden.£
			[£whoo hoo:£ (.)£we know a lot about horse-riding.£
147			(3.8)
148	Ivy		ze zijn heel erg lief,
			they are very sweet,

Megan's statement claims epistemic symmetry from the perspective of all participants, and has a strong affiliating function, which is highlighted by the joint laughter of Ivy and Megan. The positive assessment closes the sequence: after a short silence, Ivy proposes a new idea (line 148).

Utterances with 'we know' accompanied with 'now', initiating a post-expansion, emphasise a shift from an unknowing (K-) to a knowing position (K+) of the group. This transition is thus marked explicitly, as we will demonstrate with excerpt 12, displaying two students who are taking notes while alternately reading aloud from a text-book about sluices. The first part of the fragment (lines 203-210) shows how Polly and Wesley are reading aloud together (not marked explicitly in the transcript for reasons of readability), when Wesley reads 'polder' and asks what that is (line 209). Polly doesn't know either,

and later in the conversation (from line 282 onwards) the students are still reading aloud and taking notes, when they discover what a 'polder' is (lines 285-286).

(12)

203	Polly		de hoeveelheid, **the amount,**
204	Wesley		de hoeveel·h heid °water° (.) in (.) een rivier of, **the amou·h mount of °water° (.) in (.) a river or,**
205	Polly		in (.) een_ **in (.) a_**
206	Wesley		in een pro- [pol::]der. **in a pro- [pol::]der.**
207	Polly		[°polder°] **[°polder°]**
208			(0.2) **((Wesley stops reading and gazes at Polly))**
209	Wesley		wat is dat eigenlijk, **what is that actually,**
210	Polly		°hmm weet ik niet.° **°mm I don't know.°**
((72 lines omitted))			
282	Polly		((wijst aan in boekje en gaat voorlezen)) het is een **((points out in text-book and reads aloud)) it is a**
283			sluis die zorgt dat ergens water uitgaat. **sluice that ensures that water comes out somewhere.**
284			(1.7) **((Wesley gazes in the book and starts reading aloud))**
285	Wesley		°<water uit komt mee[stal>° is dat een polder. **°<water comes out gene[rally>° that is a polder.**
286	Polly		[meestal is dat een po:lder. (.) **[generally that is a po:lder. (.)**
287	Polly	→	↑o:h nu weten we wat een polder is. (.) >dat wisten we **↑o:h now we know what a polder is. (.) >we did not know**
288			even niet hè **that momentarily right<**
289	Wesley		nee. **no.**

After reading aloud together (lines 282-286), Polly displays the change-of-state token (Heritage, 1984) 'oh', and states that *now* they know what a 'polder' is, which neither of them knew before. In Dutch, oh-prefaced declaratives are generally used to claim that the

speaker now understands something he earlier did not understand or had misunderstood, and confirmation is treated as a relevant response (Seuren, et al., 2016). The use of 'oh' and 'now' in line 287 (and the time indication 'momentarily') marks a transformation in epistemic stance, and Polly's tag question 'right?' invites Wesley to affiliate with this utterance, which he does in line 289. This emphasises Polly's orientation towards the importance of shared knowledge in a cooperative participation framework, to bring their research project to a successful conclusion. The use of 'we' may also be regarded as having an affiliating function, since the use of this personal pronoun indicates symmetry in participation (Heritage, 2004).

Taken together, shared stance taking with linguistic constructions holding 'you know' or 'we know', is employed to pursue agreement and give a positive assessment about (newfound) shared knowledge, in contexts that display a transition from an unknowing to a knowing position, which is in that case explicitly marked.

5.4 Discussion

The present study has focused on the conversational functions of 'I know', 'you know' and 'we know', and was designed to gain a better understanding of how primary school students, who are engaged in joint writing activities in the context of inquiry learning, explicitly orient to 'knowing' in peer talk. The analysis of the design of actions and turns of these utterances displayed various manners how the participants relate to each other in terms of epistemic stance, divided in three main categories: (i) positioning oneself as knowledgeable, (ii) claiming equal epistemic access, and (iii) indicating shared knowledge with other participants. We will discuss our findings from these perspectives.

Students *position themselves as (more) knowledgeable*, with use of 'I know', to perform different actions, displaying an ascending degree of taking of a K+ status as a speaker: (i) doing a pre-announcement, (ii) responding to a request for information (with a partial or a complete answer), and (iii) reinforcing an assertion with use of an evidential claiming epistemic authority. A *pre-announcement* with 'I know' resumes the organisational agenda (Boden, 1994) when generating ideas, and seems to secure an extended turn. Interestingly, utterances with a turn-initial 'I know' indicate an authoritative stance (Heller, 2018; Kärkkäinen, 2003), but this is not the case with pre-announcements in this specific context. When students *respond to a request for information*, we observed two types of responses with 'I know': linguistic constructions with 'I know that (already)' conveying a knowing stance, and constructions with which a student *claims partial knowledge*. A participant then aligns with the initial action by providing a type-conforming response, although he cannot fully meet the required action. This may be an indication of how an interlocutor tends to 'save or maintain face' (Goffman, 1967), when sensing that he is

likely to feel inferior with regard to his reputation as a knowledgeable participant. When students *provide a complete answer* to a request for information with use of a turn-initial 'I know', they adopt an overt knowledgeable stance, which creates a competitive context. Other students then tend to take a knowing stance as well, even when this contradicts their earlier assertions concerning the knowledge at hand. The fourth type of action to explicitly position oneself as knowledgeable, is found in *proposal sequences*. When proposals are rejected or acceptance is not yet displayed by others, disagreement may be looming and students then *claim epistemic authority by use of evidentials* ('I know this because ..'). This supports earlier findings of Pomerantz (1984) and Enfield (2011), who have shown how participants make use of evidence, based on first-hand knowledge or second-hand knowledge (Pomerantz, 1980) to reinforce the truth of their statements. In our data, source-based evidentials were only found in contexts where students use (online) textual sources, and the referred information was present in the immediate context. Use of evidentials from personal experiences, conveying status-based authority, was found more often and occurred to reinforce an account for a proposal and thus to pursue agreement.

Secondly, students *claim equal epistemic access* with use of a responsive 'I know', in a linguistic construction with an account or as a single turn. The latter type was predominantly found as a response to procedural or linguistic instructions. When students write down new content, one participant is writing while the others are closely monitoring how this is done and provide unsolicited spelling instructions. Giving instructions to a peer, violates the principles of epistemic congruency and recipient design (Laury & Helasvuo, 2016), since a lack of knowledge of the recipient is presumed (which is a face-threatening context). Similar to what Mikesell, et al. (2017) demonstrated in their study, these 'I know'-responses acknowledge the accuracy of the action, but resist the authoritative stance of the co-participant. The utterances claim pre-existing knowledge or competence, and address social norms regarding the obligation of interlocutors to know what is in the common ground (epistemic responsibility).

Third, students use specific linguistic constructions *indicating or establishing shared knowledge*, with use of utterances holding 'you know' or 'we know' to (i) pursue agreement, (ii) indicate a presupposition of shared knowledge, (iii) reject a proposal (on terms of relevance), and (iv) claim shared, newfound knowledge. Linguistic constructions with use of 'you know' are used to *pursue agreement*, referring to shared or general knowledge. Students hold each other accountable for having specific knowledge, and use of a generalised assertion ('you just know') displays an authoritative stance by the speaker, who consequently reinforces his appeal to co-participants to show agreement. Claiming that something is in the domain of well-known knowledge, creates a moral obligation to agree for co-participants, since common knowledge is difficult to reject. Furthermore, students use linguistic constructions with 'you know' *to indicate a presupposition of shared*

knowledge with a co-participant, for which they seek explicit consent. The way in which 8-12 year old children use linguistic constructions holding 'you know', aiming at shared knowledge in (potential) argumentative, disaffiliating contexts, resembles the findings of Asmuβ (2011) on the data from adult conversations. To conclude, students use a responsive 'we know' in order to *reject a proposal* ('we know that already') or to *claim shared, newfound knowledge*. In the latter use, a turn-initial 'we know' is used to positively assess a mutual state-of-knowledge, and to mark a transition from an unknowing to a knowing position together. Positive assessments address shared written outcomes and are done in sequence closing positions, which emphasises that students consider generated knowledge as a joint interactional accomplishment (Rojas-Drummond, et al., 2010). We noticed that utterances holding '*now* we know', explicitly indicating a shift to a knowing stance, were only present in contexts of dialogic reading (Maine, 2013), in which students make use of textual sources to find new information on their research topic. Shared stance marking that includes all participants, calls attention to the shared objectives and mutual responsibilities, which may contribute to a cooperative environment and thus to completing of the joint writing activity.

Students aged 8-12 years old who are creating one written product together in a content-based environment, explicitly orient to similarities and differences in epistemic access, and to the relative rights to know or to claim knowledge within the peer group. And although the students in our data are of a relatively young age, the findings do not indicate in any way that the students are not yet fully competent (as may be the case for even younger students; see Abbeduto & Rosenberg, 1985; Bassano, 1996; Hickman & Bassano, 2016) in using positive linguistic constructions containing the epistemic verb 'know'. The students use 'know' to position themselves as being well-informed, and they also employ this verb to hold fellow students accountable for recognising what is in the domain of shared (common) knowledge, or to rejoice in the acquisition or establishment of knowledge as a mutual achievement. To create or (re-)establish a common ground (Clark, 1996), the students refer to elements of both sociocultural knowledge and personal knowledge (Stevanovic and Peräkylä, 2014). In addition to their explicit orientation towards the epistemic (and in some cases deontic) order as resource for action recognition, the emotional facets of the participant's moment-to-moment relationships also seems to play a role. Responses with 'I know' then have an affiliating function, contributing to the emotional facets of the social relationship. Our data thus shows how students are oriented to *shared* knowledge with their peers, but at the same time it is noteworthy that linguistic constructions with 'know' holding the personal pronoun 'I', were produced to a much larger extent than utterances holding 'you' and 'we'. And although the use of 'I know' performs various functions, it may be hypothesised that being a knowledgeable member of the peer group is particularly important to the students, especially when a face-threatening action is conducted by a classmate.

Regarding the main activity of collaborative writing, the study has demonstrated how the different moral aspects of sharing and discussing knowledge with peers were triggered by this specific context, and seemed to impact the outcomes in terms of discussing and making joint decisions on text content. The 'I/ you/ we know'-constructions in argumentative contexts, are mainly employed to convince co-participants of the relevance or truth of an idea for the text (e.g. to provide an evidential for a proposal, or to call on shared knowledge of fellow students). This has deepened our understanding of how moral dimensions of 'knowing' may play a role in learning and writing together, which makes a contribution to the existing literature on how writing in small groups may benefit content learning (e.g. Rojas- Drummond et al., 2008; Rojas-Drummond et al., 2020). In a more general sense, the conversational functions of utterances with 'know' demonstrate how dialogic practices (Kim and Wilkinson, 2019; Vrikki, et al., 2019) become apparent in educational dialogue or 'accountable talk' (Michaels, et al., 2008), that includes supporting each other to contribute, making (partial) concessions, providing reasons for (dis)agreement, and providing evidence for expressed ideas. In a *community of practice* (Lave & Wenger, 1991), learning and knowing are regarded as relations among people who are engaged in activities within specific sociocultural contexts. Insight into the different practices of children, which demonstrate how they relate to differences and similarities in knowing within a peer group, including how they employ this understanding to establish a common ground, contributes to our understanding of how such a community of practice is brought into being in peer talk. Taken these findings as a point of departure, future work may further scrutinise how dialogic (writing) events, in which students share and discuss knowledge as they talk and write together, may be optimised, taking also the moral dimensions of 'knowing' into account.

6

General discussion

6. General discussion

The current research makes a contribution to the literature on collaborative writing from a sociocultural and dialogic perspective. In addition, the studies in this thesis add to the existing body of knowledge on proposal sequences and epistemics in conversation, as established by studies employing Conversation Analysis (CA). The first section of this chapter will provide a summary of the four subsequent empirical studies that were presented in this thesis. In section 6.2, I will consider the methodological background and guiding choices of my research. The theoretical significances of the findings will then be discussed in section 6.3, building on earlier studies within the sociocultural field of writing and learning together, and on studies in Conversation Analysis. Finally, this will all lead up to the conclusive section of this thesis (6.4), in which I will reflect on the pedagogical implications and the potentials for future research.

6.1 Summary

This dissertation presents four studies on conversational data of 8-12 year old children, who are writing together in the context of inquiry learning. The research is grounded in a sociocultural understanding of collaborative writing and learning, and in conversation analytical insights about how participants organize talk. The video data for this research was collected in the context of projects for inquiry learning, in grades 2-6 of six primary schools in the north of the Netherlands (2012-2015). In periods of around three weeks, two times each year, students worked in small mixed aged groups on their own research project. The dataset consisted of video recordings with a total time of 7 hours and 34 minutes, and the average duration of a writing event was 10.39 minutes. The analysis of the face-to-face peer talk was approached from two main substantive angles: that of collaboratively producing one written product together, and that of joint knowledge building. Applying Conversation Analysis (CA) as my main method, I was able to conduct four different collection studies on specific interactional phenomena. These studies will be summarized in the following paragraphs. Section 6.1.1 summarizes the first study that focused on proposals in the trajectories of peer talk when writing together. The next section (6.1.2) provides an overview of a study on how reflective practices occur in the process of writing together. Section 6.1.3 recapitulates the third study on the production of epistemic displays, and section 6.1.4 offers a summary of the final study, that addressed the conversational function of utterances with ‘I know’, ‘you know’ and ‘we know’.

6.1.1 Nature and function of proposals

The main goal of the first study for this thesis (chapter 2), was to determine the nature and function of proposals in collaborative writing of primary school students. Creating one text together requires participants to take numerous shared decisions, so collaborative writing can be regarded primarily as a process of joint decision-making, but it was still unknown which conversational practices students display as they negotiate for consensus. Negotiations generally start with a proposal, being an initiating action that involves the speaker attempting to bring about some future action, event or situation (Houtkoop-Steenstra, 1987; Couper Kuhlen, 2014). After a proposal is conveyed by the first speaker, a recipient can accept or decline the proposal, or ask for clarification (Couper-Kuhlen & Etelämäki 2015; Siitonen & Wahlberg 2015; Stevanovic & Peräkylä, 2012; Yasui, 2013), which then has consequences for the sequential organization of the talk. Scrutinizing how students proffer and handle proposals to take shared decisions, has generated insightful knowledge on how texts are created collaboratively in interaction. The research question was: How do students proffer and handle proposals to take shared decisions when producing one written text together?

The study has generated three major findings. To begin with, five main targets of proposals were identified: (i) content of the text, (ii) procedure (task management), (iii) translation of generated content, (iv) text structure, and (v) layout. The extent to which the different types of proposals played a role in the writing together process, was related to the nature of the writing event (e.g. creating a mind map or writing a letter). When writing short texts (notes, whether or not with use of source texts, PowerPoint presentations or captions at pictures), procedural proposals and proposals for layout were dominant. Writing a letter, story or report, also lead to uttering proposals for text structure. In writing events where students primarily had to generate new ideas, proposals aimed at content, translation and procedural issues.

Second, procedural proposals and proposals for content were syntactically designed in different ways. Procedural proposals were generally built as declaratives accompanied by an auxiliary verb expressing future actions or modal verbs of obligation. Proposals for content were also constructed predominantly as declaratives, and a distinction could be made between two contexts: generating ideas from personal knowledge and experiences and with the use of a source text. Proposals for content from personal knowledge were recurrently combined with a proposal for translation, and these proposals generated uptakes in which the ideas were discussed. When students expressed a proposal for content referring to an available (online) source text, the proposal included a fragment of that text (*reported speech*), and these proposals were barely discussed or elaborated upon. When students made use of a PC, they constructed proposals more often in a multimodal fashion (Gardner & Levy, 2010), by using both verbal and embodied and material action.

Thus, the objective of a proposal appeared to be related to the syntactical design and subsequently to how the proposals were treated by the interlocutors.

The third central outcome was that writing down the agreed content and translation occurred in various sequential positions, displaying two main patterns: (i) writing down accomplished the position of a preferred second pair part (SPP), non-verbally expressing acceptance of a proposal for both content and translation, and (ii) writing down was done in a sequence closing position, after the participants have reached agreement verbally on both the content and translation (simultaneously or subsequently) This finding supported earlier research on collaborative writing in adult meetings (Nissi, 2015).

Analyzing proposal sequences in collaborative writing, has contributed to the understanding of how primary school students participate as co-writers (Saunders, 1989), displaying how both procedural proposals and proposals for content play a role in the writing together process. The study also validated how content generation (planning) and transcription of generated content (translation) are strongly interconnected in the task execution of the students (Flower and Hayes, 1987; Vass, 2007). In a process of explorative, creative interthinking (Mercer, 2004; Vass, et al., 2008; Mercer and Littleton, 2013, 207), the students make joint decisions about the approach and the intended text, and they seem to have a common orientation to an organizational agenda (Boden, 1994) and the required outcomes of the writing event.

6.1.2 Reflecting on appropriateness and correctness

Writing together facilitates that the participants learn from each other's writing, regulation processes and conceptual knowledge, and may encourage critical reflection on writers' choices (Klein 2014; Nykopp et al, 2014; Van Steendam 2016). In essence, writing can be characterized as a metalinguistic activity (Chen and Myhill, 2016; Myhill and Jones, 2015), since it always requires decision-making about language and communication of meaning. To become a skilled writer, students need to reflect on both the writing process and the written product (Bereiter and Scardamalia, 1987), which implies that metatalk about writing is important. Earlier studies on teacher-student interaction have demonstrated that metalinguistic conversation is a favourable factor in developing writing proficiency (Dolz and Erhard 2000; D'warte 2012; Jesson et al., 2016; Myhill et al 2012; Myhill et al 2013; Myhill and Jones, 2015. However, despite the importance of this aspect of writing and becoming a skilled writer, little research has been conducted on how metatalk (Parr and Wilkinson 2016) appears in the interaction of collaboratively writing students, when no teacher is involved. The study that is reported in chapter 3, answered the following question: how do reflective practices regarding both text content and linguistic issues occur and function in collaborative writing?

The analysis showed that reflective practices play a part in deciding on text content and packaging, and in monitoring correctness of spelling, punctuation and grammar.

Students reflected on two main criteria: (i) appropriateness, when commenting on proposals of peers during idea generation, and (ii) correctness, during and after writing down new content. Reflecting on *appropriateness* concerned three aspects: the amount of information that is already given (redundancy), the suitability of word choices or style (displaying an orientation to the intended audience), and the relevance of an idea concerning both the topic of the research project and the relevance for the inquiry process. Comments on redundancy were situated as a Second Pair Part (SPP) in response to a proposal that initiated the sequence, and not treated as dispreferred, implying a shared orientation to what is appropriate. Reflective utterances that addressed issues of suitability occurred as embedded corrections (Jefferson, 1987) of an accepted proposal. An argumentative response that reflected on the relevance of an idea, evoked some extended discourse, although the insignificance of a proposed idea is generally treated as a conclusive argument for rejection.

Reflecting on linguistic *correctness* of written language generated conversational actions that had an impact on the written text. Three types in different sequential positions were distinguished. First, the student who is writing, may recruit (Kendrick & Drew, 2016) his peers to assist him with solving an approaching linguistic problem, just before writing down the intended word(s). This recruitment was conducted in both declarative and interrogative formats, and positioned as a First Pair Part (FPP) of an insertion sequence. Second, a student who was not writing but monitoring the writer, could perform an (unsolicited) instruction to avoid a potential transcription error in linguistic production (Kääntä 2010; Dalton-Puffer 2007). The instruction was done in the oral mode and succeeded by an execution in the written mode, which emphasized the multimodal character of these events. This is also the case in the third type of action, being an other-correction (Macbeth 2004; Schegloff et al., 1977) that was done by a non-writing student in response to what had already been written down.

The findings suggest that collaborative writing in the functional context of inquiry learning, provides a fruitful context for creating *dialogic spaces* (Wegerif, 2011) to enhance conditions for developing writing proficiency of primary school children. It was argued that the naturally occurring metatalk related to writers' choices, may be a key starting point to orient primary school children more explicitly to for instance connections between grammar and writing (Myhill and Newman, 2016), or, different genres (Hyland, 2007; Heuboeck, 2009; Martin 2009).

6.1.3 Sharing knowledge with peers

From a sociocultural perspective on learning (Howe, 2010; Littleton & Mercer 2010; Mercer, 2004; Mercer & Howe, 2012), cooperative work, in which students are (increasingly) oriented towards knowledge of others both within and outside the classroom, is understood to be beneficial for learning. In dialogic practices (Alexander, 2018; Kim &

Wilkinson, 2019; Vrikki, et al., 2019; Wegerif, 2008; Wegerif, 2011), the knowledge of the participants within trajectories of joint reasoning (Littleton & Mercer 2010; Mercer & Howe, 2012), is not a stable pre-existing state, but may change from moment to moment (Keevallik, 2011). Up till now, the fundamental action of sharing knowledge with each other in peer talk was unexposed. Main question was: Which sequential contexts make it relevant for the students to share their knowledge with their peers?

The *epistemic displays* in peer talk, that were in focus for the study, were defined as assertions with which a participant explicitly demonstrates (Koole, 2010) world-knowledge (Bereiter, 2002), in the course of the interaction. The analysis has shown that epistemic displays are produced as (i) accounts, (ii) responses to a request for information, and (iii) other-corrections. In the *uptake* succeeding epistemic displays occur as (iv) disagreements with previous epistemic displays, and (v) expansions on previous epistemic displays.

First, epistemic displays that functioned as *accounts* have four main uses: an account for a proposal, an account for agreement with a proposal from a peer, an account for rejecting a proposal (almost half of the cases), and an account for an other-correction. Accounting for proposals and (dis)agreement with proposals of others, were particularly present in writing events aiming at generating research or interview questions, or writing a letter to an expert. Accounts for other-corrections were not bound to any specific writing activities.

The second main category of conversational actions that are accomplished by producing an epistemic display, are *responses to requests for information*. This type of epistemic displays were particularly found in responses to an explicit request to make a contribution, a clarification request, a display of not-knowing by a peer, and proposed research or interview questions. In the latter cases, proposals for questions were treated as requests for information.

Third, *other-corrections* were produced in responsive positions, after an epistemic display of a fellow student, holding incorrect information. The occurrence of epistemic displays in other-corrections appeared in all different writing events.

Fourth, *disagreement* with the propositional content of epistemic displays was exposed in responses to an account for a proposal, account for an other-corrections, responses to requests for information, and especially in accounts for disagreement with proposals, that lead to argumentative sequences, in which students demonstrate knowledge to dispute the propositional content (Enfield, 2011) of an epistemic display that was produced by a peer.

In the fifth place, epistemic displays were produced as *expansions* on a previous epistemic display of a fellow student, which could then lead to additional or more elaborated ideas. Expanding implies acknowledgement of the propositional truth of what was said by a peer or what is read in (textual) resources. Expansions were particularly observable in writing events in which students used (online) textual sources, or created mind maps. The analysis of how subsequent demonstrations of knowledge are produced

in expansions, indicated how building on each other's' ideas (Klein, 2014; Vass et al., 2008) is sequentially brought into being.

The discussion of the findings addressed the main functions of epistemic displays (Enfield, 2011), being a *justifying* function of accounts and disagreements, and a *clarifying* function of responses to requests for information, other-corrections, and expansions). Also, attention was payed to how the participation framework (Goodwin & Goodwin, 2004) may alter in specific writing events, when a student adopts a facilitators' role (Nissi, 2015). The student then explicitly invites peers to contribute with new ideas, but seems to refrain from contributing himself. Finally, it was discussed that the epistemic displays consisted of world knowledge (including special subject matter; Hedegaard, 2008), linguistic knowledge and knowledge from everyday life or personal experiences, and that the students naturally switched between knowledge that originates from experiences both within and outside the classroom. The different types of knowledge occurred as being principally intertwined, indicating the manifestation of dialogic spaces (Alexander, 2008; Wegerif, 2011).

6.1.4 Orienting to knowing of oneself and others

The fourth study for this thesis focused on the conversational functions of 'I know', 'you know' and 'we know', and was designed to gain a better understanding of how the students explicitly oriented to *knowing* in peer talk. Having and sharing knowledge in interaction, has moral dimensions in terms of rights and responsibilities (Stivers et al., 2011). Conversational partners are expected to be attentive to the distribution of knowledge among their addressees, and tailor their utterances accordingly (Laury & Helasvuo, 2016), in terms of *alignment* and *affiliation* (Stivers et al., 2011). CA studies on the use of 'I know' and 'you know' have established the conversational functions of these utterances, among which resisting the news value of what is being said, indicating a general agreement or understanding on the basis of prior knowledge, affiliating with co-participants, and appealing to the recipients' knowledge and involvement (Asmuβ, 2011; Heritage & Sefi, 1992; Keevallik, 2003; MacMartin, et al., 2014; Mikesell, et al., 2017; Keevallik, 2003). The main question for this study was: What is the conversational function of utterances with 'I know', 'you know' and 'we know' in the context of dialogic writing?

The analysis of the design of actions and turns of utterances holding the epistemic verb 'know' and the personal pronoun *I*, *you* or *we*, displayed various conversational practices that expose how the participants relate to each other in terms of epistemic stance (Heritage, 2012a,b). The findings were divided in three main categories: (i) positioning oneself as knowledgeable, (ii) claiming equal epistemic access, and (iii) indicating shared knowledge with other participants. Students claimed (partial) knowledge and epistemic authority with use of a turn-initial, turn-medial and turn-final 'I know' in different

sequential positions. Shared knowledge was indicated with 'you know' and 'we know', in both argumentative and affiliating contexts.

Students *positioned themselves as knowledgeable*, with use of 'I know', to perform different actions, displaying an ascending degree of taking a K+ status as a speaker: (i) doing a pre-announcement in an initial position, resuming the organizational agenda, (ii) responding to a request for information, with a full or a partial answer, and (iii) reinforcing an assertion with use of an evidential (Enfield, 2011), claiming epistemic authority.

Secondly, students *claimed equal epistemic access* with use of 'I know'. These 'I know'-responses acknowledged the accuracy of the action, but resist the authoritative stance of the co-participant (Mikesell, et al., 2017). The utterances holding 'I know' claimed already existing knowledge or competence (saving or maintaining face; Goffman, 1967), and addressed social norms regarding the obligation of interlocutors to know what is in the common ground (Clark, 1996). When rejecting an unsolicited instruction of a peer, students mainly responded with a stand-alone, unaccounted 'I know' as a separate turn.

Third, students used specific linguistic constructions to *indicate or establish shared knowledge*, with use of utterances holding 'you know' or 'we know'. This was done to (i) pursue agreement, (ii) indicate a presupposition of shared knowledge, (iii) reject a proposal (on terms of relevance), or (iv) claim shared, newfound knowledge. In the latter use, a turn-initial 'we know' marked a transition from an unknowing to a knowing position together, or a positive assessment of a mutual state-of-knowledge as a joint interactional accomplishment (Rojas-Drummond, et al., 2010). The way in which the students used linguistic constructions holding 'you know', aiming at shared knowledge in (potential) argumentative, disaffiliating contexts (Asmuβ, 2011), demonstrates how students establish a common ground (Clark, 1996), and how students seem to orient to the epistemic and emotional order of the social relations (Stevanovic and Peräkylä, 2014).

This study has contributed to CA research on epistemics by expanding the knowledge to data of young interlocutors, and by conducting an integrated analysis of 'I know', 'you know' and 'we know' to gain a better understanding of the moral dimensions of knowing in interaction. The conversational functions of utterances with 'know' indicate how dialogic practices (Kim and Wilkinson, 2019; Vrikki, et al., 2019) may become apparent in peer talk, and contributes to our understanding of how a *community of practice* (Lave & Wenger, 1991) is brought into being in peer talk.

6.2 Methodological discussion

The data for my research was collected during small scale inquiry learning projects in the middle and upper grades of primary school, and the analyses were conducted with

the use of (applied) Conversation Analysis. In this section I will discuss the implications of my methodological choices.

Regarding the data collection, a point of attention that is relevant to address here, concerns the nature of the conversational data. Studying the organization of natural occurring talk in both mundane and institutional settings, is at the heart of conversation analytic research (Ten Have, 2007).

Conversation Analysis (CA) is primarily concerned with data of naturally occurring talk, and this implies that the data (collection) should not be influenced by specific changes in the natural context of classroom activities, for instance by the intervention itself, or due to the presence of researchers and cameras (Lester & O'Reilly, 2019). The data collection for this study was conducted with the use of a video camera and table microphone, which evidently means that the interaction may have been influenced by the intervention (Antaki, 2011). However, given these circumstances, the students were autonomously making decisions as regards the (occurrence of) writing events, which diminishes the possible influence of the intervention. Moreover, it was noticeable that all students were eventually fully engaged in their joint activities, apparently unaware of the camera and table microphone. Exceptions were short instances (interruptions) in which a student corrected a peer for instance concerning certain language use, meanwhile pointing at the table microphone. This showed that the students were aware of the fact that their conversation was being recorded. Some students also had to get used to the camera in the beginning, which was discernible as shyness (which disappeared once the students were engaged in their activity), or jokes about when it would all be broadcasted on national television. Apart from these exceptions, the data did not give reason to assume that the students performed the writing activities in a different way than if there had not been a camera present. In other words: the presence of a researcher and camera did not seem to have an impact on the interaction of the students, which implies that the data indeed consists of natural occurring talk .

Using CA to analyse the conversational data of students who are writing together in the context of inquiry learning projects, has made a distinct contribution to the body of research on both writing and learning together (see the discussion sections in chapters 2, 3, 4 and 5). This added value can best be summarized with stating that the CA-informed analysis has provided the opportunity to describe in a detailed manner *how* students interactionally create one written product together and come to discuss knowledge, taking *what is made relevant by the participants* as a point of departure. As concerns collaborative writing, the fine-grained analyses contributed to our understanding of how students proceed through the different recursive phases of writing together, by proffering and responding to proposals, and also of what 8-12 year old students treat as relevant concerning matters of choices on content and linguistic issues, when making joint decisions during writing together. Our understanding of how students learn together

in terms of subject knowledge, has also been refined by the sequential analyses that showed at what points in the interaction the students are triggered to share knowledge, and also how students relate to knowledge and knowing of oneself and others within the peer group.

CA is particularly suited for analysing talk-in-interaction, and scrutinizing sequences of peer talk of collaboratively writing students in middle and upper grades of primary schools has provided detailed information about how students perform the shared writing activities. The way in which the data for this research was collected, as well as the method for analysis of the data, has implications for what could or could not be examined. For instance, how writing together may have an impact on the individual writing skills of the students, although this may be a relevant issue, since the students are developing their writing skills while working in mixed age groups. In section 6.4, ideas for expanding or deepening the findings of my research, with a view to optimizing educational practices, will be addressed. In the next section, I will discuss the theoretical implications.

6.3 Theoretical discussion

The research that is presented in this thesis, builds on a considerable amount of existing literature on collaborative writing and dialogic interaction, from a sociocultural perspective on learning, and on Conversation Analytic studies on epistemics. The conversational data of collaboratively writing students was observed and analysed in the context of an institutional setting (Drew & Heritage, 1992), being classrooms in the middle and upper grades of primary schools. Verbal practices, or in a more general sense dialogic literacy practices (Rojas-Drummond et al., 2017), play a crucial role in how learning is shaped in a *community of practice* (Lave and Wenger, 1991): "learning to participate in activities requires particular actions and can even produce new actions through collaborative reflection on the meaning of different actions within the activity. This calls for a type of learning that is based on negotiations of meaning, exchange and construction of new meanings, and similar actions" (Van Oers, 2008, p.9). Cultural knowledge is developed by participating in social events in which participants move to full participation, and the associated practices are both the means and the outcomes of the learning (Freebody, 2003; Rogoff, 2003). Recognizing this is important, since knowledge is often seen as the outcome of an instruction and consequently measured as such (Macbeth, 2009). To go beyond the mere transmission of knowledge, it is vital that students are provided a variety of opportunities to learn about content, relationship, dialogue, self, and other (Wix & John-Steiner, 2008). As the data of my research have shown, working in peer groups on projects for inquiry learning (Bereiter 2002; Littleton & Kerawalla, 2012) and performing different writing activities in this context, evoked a variety of conversational practices

that demonstrated how writing and thinking together is shaped and interconnected, and accordingly how this specific context provides conditions to create dialogic spaces, in which meaning always emerges in the play of different voices in dialogue together, implying a certain kind of infinity or unbounded potential (Wegerif, 2013).

In the following, I will discuss the findings of the current research on the basis of the following aspects: (i) collaborative writing as situated events in the school context, (ii) reflecting on appropriateness and linguistic correctness, (iii) sharing knowledge and creative interthinking, (iv) being aware of differences and similarities in 'knowing, and (v) writing skills and pragmatic competence.

Collaborative writing as situated events in the school context

How students organize the writing events together, considering the syntactic structuring and handling of procedural proposals, the occurrence of teacher-like conversational patterns and an orientation to quantitative aspects of the intended written product, seems to disclose facets of the institutional context (Drew & Heritage, 1992; Heritage, 2004) in which the activities were situated.

By providing a detailed account of how proposals (Houtkoop-Steenstra, 1987) steer the interaction of collaboratively writing students, the study contributes to earlier research on how writing together is organized by the participants, and how the interaction displays process-oriented thinking (Van Steendam, 2016; Vass, 2007). The analysis of the proposal sequences demonstrated that proposals for content and procedural proposals are constructed and handled differently. Procedural proposals were generally constructed with modal verbs of obligation, as commands and instructions (Couper-Kuhlen, 2014), although treated as proposals. This specific word choice in procedural proposals is noteworthy, since lexical selections help determine how an utterance is perceived by a recipient and consequently how a sequence unfolds (Heritage, 2004). In my data, procedural proposals encounter little resistance and do not, or only to a limited extent, bring about interaction on how to approach the task (chapter 2). These proposals, aiming at subsequent steps in the writing activity or other organizational actions, seem to be accepted easily, in order to move on with the task, which may be characterized best as 'quick consensus building' (Weinberger & Fischer, 2002). Similar observations were done in the analysis of how students perform other-corrections (Jefferson, 1987) and instructions regarding correctness of spelling and grammar (chapter 3), and in the fact that the only 'I know'-responses that occurred as a single turn (chapter 5), were primarily produced in response to procedural or linguistic instructions. Also in these cases, no further uptake was observed, implying that these actions, aiming at procedural aspects of the writing, are not understood as grounds for debate.

Furthermore, when students were write down new content, they mainly address correctness of spelling and punctuation and do not reflect on higher-order concerns of

the intended text (when applicable). A related finding, although this was mentioned only by implication, concerns the observation that the students seemed to be focused on the quantitative aspects of the intended written product. For instance: students generally refer to the amount of questions that have been generated, or to how 'filled' a piece of paper is, as guiding criteria for whether or not a writing activity is completed. So, although the process and the educational results were in essence open-ended in the context of the inquiry learning projects, the students seemed to operate with an educational end in mind that put emphasis on quantitative aspects, rather than on for instance creative and extensive idea generation, or questioning whether or not the rhetorical goal of the text would be met. Based on the above mentioned observations, it could be argued that students trust in certain sociocultural knowledge (Stevanovic and Peräkylä, 2014), which consists of presumed demands on their work, focusing merely on quantitative and lower-order aspects than on qualitative facets.

Besides the observations of how proposal sequences move forwards the writing event, another aspect of the organisation concerned a shared orientation to an organizational agenda (Boden, 1994). To some extent, the structural organization of how the peer groups conducted their writing activities showed a resemblance with how informal meetings in general are organized. In many cases in my data, one student took on a role as a facilitator (Nissi, 2015) or chairman of the meeting. When decisions on new content were made, the student who took on a facilitating role, generally wrote down the agreed content, being a nonverbal action to accept a proposal (chapter 2), and allocated turns, inviting the peers for new ideas (chapter 4) in specific writing events. It was also found that this could have consequences for the symmetry in the peer group (Blum-Kulka & Snow, 2004), and for how turn-taking was organized within groups of three or more students. In addition, the design of utterances that reflected on correctness of written language when writing (chapter 3), displayed several practices that hold strong similarities with typical 'teacher talk' (Koole & Berenst 2008).

According to Schegloff (1992), analysing talk may uncover what is crucial about a specific context, as this may show the aspects that are made relevant by the participants. In fact, Heritage claims, referring to earlier work of Atkinson (1982), that it is often possible "to recognize the 'institutional' character of sequences of talk without any information beyond the words on the page" (Heritage, 1984b, p.283). The observations strengthen the premise that the culturally determined context in which the activity is situated, influences how the participants perceive and value both the process and the required outcomes. How students design and handle procedural proposals and (linguistic) instructions, seems to display an orientation to the expected requirements of the intended written product and assumptions about what is specifically worth attending to (Hasan, 2012; Wells, 2007), within the institutional context of the classroom (Drew & Heritage, 1992).

Reflecting on appropriateness and linguistic correctness

Another aspect of how the students collaboratively write a text, concerns the reflective practices (see chapter 3). Up till now, metatalk in the context of writing education in primary schools was mainly studied in the interaction of teachers and students (Myhill 2009; Myhill et al., 2012). These studies validated the importance of metalinguistic interaction for the development of writing proficiency, which makes it relevant to scrutinize metatalk (Myhill & Newman, 2016) in writing events that are conducted without prior instructions or interference from the teachers. The analysis (see chapter 3) showed for instance how students solve conceptual problems by reflecting on aspects of redundancy and make thought-out choices regarding the content of the text. Accordingly, examples of how the students solve linguistic problems together were found in how they consider word choices (e.g. the use of a formal or informal form of address), and also in requests for information by the writer about the correct spelling of words.

Part of the reflective utterances addressed aspects of the register of the specific genre (Hyland, 2005; Heuboeck, 2009; Martin, 2009) the students were writing. Knowing specific genre characteristics and creating connections between disciplines (Nelson, 2001), was observed in different writing events, for instance when debating the use of abbreviations in a formal letter (reflecting on writing conventions), when creating a PowerPoint presentation using loose words or very short sentences, and also when students wrote a story (narrative). These texts were naturally started with the words 'Once upon a time ..' (in Dutch: *Er was eens*…), without any need for debate. This observation displays how the text genre 'story', with associated word choices, is strongly anchored in the literacy practices and consequently in the children's linguistic and rhetorical knowledge. Reflective utterances that are related to genre knowledge, expose an awareness of how texts are shaped by a collective history of literacy practices (Graham, 2018). As Rojas-Drummond et al. (2008, p.181) put it: "Intertextuality is essential to collaborative writing given that participants are constantly blending their voices for a common purpose. At the same time, collaborative writing informs our understanding of intertextuality because it makes thinking about writing external and explicit".

Disclosing how students reflect on matters of appropriateness and correctness while writing together, has particularly enhanced our knowledge of what is considered relevant by students in the middle and upper grades of primary schools, and also of how conceptual and linguistic problems are solved in the course of the interaction. It was also noted that aspects of the text structure (in text types for which this is relevant) were addressed to a much lesser extent, which indicates strategies of novice writers, who are writing without much consideration of text coherence and the use of appropriate linguistic means for creating coherence (Bereiter & Scardamalia, 1987; Hoogeveen & Van Gelderen, 2018). The students seemed to be oriented to declarative knowledge

of punctuation, capitals and spelling, which are generally regarded as the lower-order aspects of writing (Bouwer & Koster, 2016).

Sharing knowledge and creative interthinking

Sharing ideas and reflecting on others' points of view, are fundamental aspects of collaborative work and the building blocks of a dialogic perspective on learning (Alexander, 2008; Donahue & Lillis, 2014; Rojas-Drummond et al., 2020; Vass et al., 2014; Vrikki et al., 2019). This thesis contributes to previous work on collaborative (writing and) learning with two key insights: how the writing events evoke students to share and discuss (different kinds of) knowledge, and how students relate to 'knowing' of oneself and others within the peer group (see next sub section). The research also disclosed which types of knowledge the students discuss in the given contexts.

In contrast to how procedural proposals were handled, proposals for content regularly generated discussions on appropriateness (chapter 3), evoked the production of epistemic displays (chapter 4), and could subsequently bring about utterances that make 'knowing' within the peer group explicit and thus relevant (chapter 5). Proposals for content were found to be constructed in various ways: when generating ideas from own knowledge, the students generally proposed sentences for the text, combining both a proposal for content as well as for the linguistic packaging. When students are using source texts, proposals were constructed with use of the given texts, which then generates instances of *reported speech* (Clift & Holt, 2006; Nissi, 2015).

Chapter 4 has extensively addressed how the production of epistemic displays come about within the interactional trajectories of the peer groups. In interaction, participants demonstrate knowledge through observable actions, for instance by making inferences to consequences (Enfield, 2011). The analysis of how the students in my data came to share knowledge with each other, showed that epistemic displays were produced as *accounts, responses to requests for information, other-corrections*, and with reference to the propositional content of a previous epistemic display, as *disagreements*, and *expansions*. Sharing knowledge as a means to display disagreement, as well as expanding on knowledge of a peer, are manifestations of what is characterized by Mercer (1995; 2004) as cumulative and exploratory talk, and accordingly examples of (for instance) building on and connecting ideas, elaboration and reasoning (Rojas-Drummond et al., 2016). The results of the current research thus substantiate the previous work on how collaborative writing may be beneficial for development of understanding (Donahue & Lillis, 2014; Klein & Boscolo, 2016; Van Steendam, 2016), and contribute to a more fine-grained understanding of how discussing knowledge may be triggered.

From the tradition of Sociocultural Discourse Analysis (Mercer, 2004), extensive knowledge about dialogic learning was established, with use of comprehensive coding schemes holding target forms of dialogue in teacher-student interactions (see Hennessy,

et al., 2016; Rojas-Drummond et al., 2020; Vrikki et al., 2019). Outcomes of didactic interventions that aim at the implementation of dialogic teaching strategies, are mainly measured by counting the occurrence of certain *communicative acts* (Rojas-Drummond et a., 2020), that are known to be facets of knowledge building discourse. For example: *asking for explanation or justification of another's contribution and inviting, building on and (dis)agreement with another's contribution or view*. The study that was presented in chapter 4, contributes to the understanding of how sharing knowledge actually occurs in the course of the interaction between primary school students, by providing a detailed analysis of the production of epistemic displays. Analysing the peer talk from that angle, has exposed that the production of an epistemic display may on the one hand be a *part of* such a communicative act (e.g. building on another's contribution), but also constitute a conversational action that *triggers* the occurrence of such a communicative act (e.g. disagreement with another's view). Also, the CA approach provided the opportunity to show that for instance *inviting a contribution, building on a contribution of a peer* and *displaying disagreement* are fundamentally different conversational actions, which occur in varying sequential contexts. This is relevant for a better understanding of how collaborative learning is actually triggered and brought into being, and so how for instance *elaborating, reasoning* or *disagreeing* occur in the interaction to begin with. After all: an utterance projects a relevant next action (the uptake; Enfield & Sidnell, 2017), which then determines how the interaction will unfold. In a more general sense, scrutinizing the occurrence of epistemic displays has disclosed how writing together may elicit tacit knowledge, and bring to the fore knowledge that may otherwise have remained unexpressed.

In the analyses of the different writing events, it was noticed that the nature of the intended texts seems to be of influence regarding the extent to which students built on previous ideas or reason about the content. Intended text types that particularly evoke practices of creative interthinking, are a mind map (in which the ideas appeared as a *joint chain of associations*; Vass, 2014), lists of interview or research questions, and a letter to an expert that also required the formulation of questions. Writing events that do not or to a much lesser extent generate forms of knowledge building discourse, are the daily reflections in the learning log, the writing of a report or captions on a poster. This is probably due to the fact that these activities promote recollection rather than reasoning (Arvaja et al., 2000). Taking notes from (online) source texts triggers making inferences (Enfield, 2011), in which the students essentially make connections between personal knowledge and experiences and information in the textual source.

The studies in this thesis have demonstrated that students display different types of knowledge: procedural knowledge (in proposals), linguistic knowledge (when reflecting on appropriateness and correctness) and world knowledge (when producing epistemic displays concerning the research theme). The knowledge naturally originates from

experiences both within and outside the classroom (Hedegaard, 2008; Houen, et al., 2017), and world knowledge (e.g. knowledge about a hammer smith, wind energy, horse riding) is recurrently elaborated upon and discussed. It is interesting to note that these different kinds of knowledge do not only appear at different, reciprocal moments throughout the writing event, but also that the knowledge is uttered in specific sequential positions, performing different conversational functions. For instance: world knowledge is exposed in phases of creative content generation (e.g. in a response to a request for information or to display disagreement with a previous epistemic display, see chapter 4), whereas linguistic knowledge occurs solely in sequences of writing down agreed words and sentences (e.g. in an other-correction, see chapter 3). In addition, only with reference to epistemic displays of world knowledge, the students accounted for their idea with the use of evidentials (Enfield, 2011), and held their fellow students accountable for having specific sociocultural or personal knowledge (Stevanovic & Perykälä, 2014). Displaying and discussing world knowledge, was particularly found in writing events in which students needed to generate ideas from their own knowledge and experience, for instance to create a mind map, write a story, or come up with ideas for interview questions. These findings contradict those of Vass (2004), who mentioned an apparent lack of explicit argumentation especially in content generation phases.

Being aware of differences and similarities in 'knowing'

A next contribution to our understanding of how dialogic learning surfaces in talk of students in middle and upper grades of primary school, concerns the interpersonal aspects of 'knowing' within a peer group (chapter 5). In a nutshell, students explicitly refer to knowing of themselves and others as being knowledgeable members of the group, hold each other accountable for bringing into play knowledge that is in the common ground, and they recognize the necessity to provide evidentials for knowledge claims in specific contexts. A dialogical peer inquiry process can be regarded as both shared and personal discovery (Wix & John-Steiner, 2008). The students in my data performed a variety of conversational actions with use of *I know*, *you know* and *we know,* which uncovers how students are engaged in learning, and well aware of how knowing of oneself and others are ultimately interrelated. The findings in this thesis displayed how students shared (and discussed) knowledge, and also how they positioned themselves as knowledgeable, claimed equal epistemic access, and indicated shared knowledge with other participants. The analyses of sequences of peer talk containing utterances with *know,* has contributed to the existing and growing body of CA literature on epistemics in conversation (Heritage & Raymond, 2005; Heritage 2012a,b, 2013; Steensig et al., 2011). Consistent with the literature (Heritage & Sefi, 1992; MacMartin et al., 2014; Mikesell et al., 2017), the use of a responsive *I know*, may indicate a lack of newsworthiness of what was said, and/or shared understanding and prior knowledge, and also indicate affiliation

with co-participants. As an addition to the existing work, it was found that students also use *I know* to do a pre-announcement, and to reinforce an assertion with the use of an evidential (Enfield, 2011). Since all studies until now appear to be conducted only on data with adult interlocutors, my research expands the knowledge on epistemics in conversation to conversational practices of primary school students. Parenthetically, this is also the case for my findings on proposals (chapter 2).

Focusing on the conversational function of utterances with the epistemic verb 'know', displayed on the one hand an impression of how learning processes become observable in talk, and on the other hand the conditional aspects of co-constructing knowledge in peer groups. This is important, since the main obstacles to creative collaboration seem to be related to the emotional atmosphere and power relations of the group, and not to a lack of knowledge, as was established in data of student teachers working together (Eteläpelto and Lahti, 2008). According to Stevanovic and Peräkylä (2014), three facets of the participants' momentary relationships pertain to the organization of action: an epistemic, a deontic and an emotional facet, which are all deployed as resources of action recognition. The premise of the authors is that social relations are anchored in these three orders, and the analysis of utterances holding 'I know', 'you know' and 'we know' uncovered how students make relevant these dimensions of their social relationship. The actions of the students varied from authoritative epistemic positioning (the use of 'I know' when accounting for an assertion with use of an evidential) to more affiliating actions, for instance the use of 'we know' to rejoice in a shared understanding, that has solved a mutual problem of understanding. The use of 'we' instead of 'I' in these contexts, emphasizes that the student then refers to himself as a member of a group (Drew and Heritage, 1992), rather than as an individual learner.

In addition, the analysis showed how utterances holding 'I know' were done in specific affiliating contexts (Asmuβ, 2011). The use of 'I know' to indicate already established knowledge (independent of the preceding assertion of a peer), and 'I know + PART' (*ik weet wel*; see chapter 5) to indicate partial knowledge as an answer to a request for information, are conversational actions that may well be understood in terms of saving or maintaining *face* (Goffman, 1967). These findings indicate that affect and emotion may play a more significant role in how the joint creation of the texts was accomplished, then is now examined. Being aware of how students relate to the dimensions of one's own knowing and a fellow student's knowing, enhances our understanding of how epistemic stance (Heritage, 2012a) surfaces and functions in peer dialogue. Overall, the actions with use of the epistemic verb 'know', demonstrated how students are 'doing knowing' (Koole, 2010), and how cognitive processes surface in talk as explicit or relativity explicit matters, that the participants are dealing with in the talk itself (Heritage, 2005).

Writing skills and pragmatic competence

The analyses for this thesis have elucidated various aspects of the writing skills and the pragmatic competences of the students in the middle and upper grades of the six primary schools. As concerns writing skills, the analyses demonstrated how students proffer and handle proposals (chapter 2), take joint decisions concerning content and linguistic issues, for instance to meet writing conventions (chapter 3), extend on each other's ideas (chapter 4), and organize the writing event in general, with a particular role of specific students who operate as facilitators (chapter 3 and 4). These findings indicate that the students are well able to self-sufficiently produce a written product in an orderly manner. Furthermore, how students discuss matters of appropriateness, solving a variety of rhetorical (if applicable), content and linguistic problems, exposed that they use quite sophisticated writing strategies, indicating cognitive processes that were identified by Bereiter and Scardamalia (1987) as *knowledge transforming*. The observations of how students generate and discuss ideas together also displayed elements of the creative aspects of writing (Sharples, 1996).

The analysis of how the talk sequentially unfolds throughout a writing event, has accordingly provided insight into the pragmatic competences of the students. In order to create one written product, students propose and discuss ideas for content, reflect on (linguistic) choices, share and discuss knowledge, and make observable how they relate to each other in terms of 'knowing'. By doing so, the students demonstrate to be well able to perform and understand a variety of pragmatic actions, that are indispensable for successfully accomplishing the joint writing task. For instance: proffering a proposal, displaying agreement or rejection, doing requests for information or responding to these actions, performing other-corrections, providing instructions, accounting for actions or ideas, and explicitly address knowing of oneself and fellow-students. These are all vital aspects of how a *community of practice* (Lave and Wenger, 1991) is brought into being in interaction, and how dialogic writing practices (Rojas-Drummond et al., 2020) are actualized in talk.

The four studies have provided new insights concerning how students write and share and discuss knowledge together peer groups, and consequently uncovered opportunities for further examining and optimizing (conditions for) dialogic writing in primary schools. I will address these issues in the following and final section.

6.4 Implications for educational practice and further research

Considering the findings of the current research, a few aspects can be determined as interesting to scrutinize and develop in further detail, to deepen our understanding of peer talk in collaborative writing events of primary school students, and to optimize conditions for dialogic writing. Four issues will be addressed: (i) analysing reflective practices in writing events with use of a word processor, (ii) studying developmental aspects of writing proficiency and pragmatic skills, (iii) understanding how the propositional content of ideas may change in the course of the interaction, and (iv) understanding and acknowledging the role of affect in group work, which is related to aspects of creativity in collaborative writing.

Reflective practices in writing events with use of a word processor

First of all, in the study on reflective practices during writing together (chapter 3), the dataset was limited to the writing events in which students made use of pen and paper. It would be interesting to expand the analysis of this interactional phenomenon to events in which students write their texts on a desktop computer or laptop. When students write with a text processor, the writing activities differ from events in which they use pen and paper, which was demonstrated for instance in chapter 2 on how proposals are constructed. Proposals for content were merely formatted as the selection of text fragments (see also Pulles et al., 2020), which not only had an impact on the content of the texts, but also on the extent to which students actually formulated sentences themselves. In most examples in my data, the students who used a word processor copy-pasted information from the internet to their own document. Analysing which aspects of the writing are made relevant in these particular writing events, and how for instance spelling tools are utilized (Cekaite, 2009) in the course of the interaction, will generate insight into how these writing events differ from writing with pen and paper. Based on what was found in the current study (chapter 3), subsequent questions may address how students discuss matters of appropriateness of ideas or suitability of word choice, when using (fragments of) already existing texts from the internet. Likewise, it would be interesting to have a better understanding of how (and to what extent) students monitor correctness of their text in these events, if they are (initially) not formulating sentences themselves. Since students are mainly concerned with layout issues of the text while working with the computer (see chapter 2), it could also be that their conversations focus more on aspects of the text structure, since the fragments from existing texts should end up in a logical place in their own writing product. These analyses will also provide a broader view of communicative practices in the primary school classrooms, concerning new technologies of literacy that require more sophisticated attention to social practices (Street, 2013). To acquire a full understanding of reflective practices of students in the context of writing

with use of a PC or laptop, a multimethod approach is highly recommended. The data collection may then be a combination of video recordings (see Kimura et al., 2018, for a conversation analytic perspective on utilizing video data) , key stoke logging (see for instance Deane et al., 2018; Leijten & Van Waes, 2013; von Koss Torkildsen et al., 2016) and eye-tracking software (see for instance Hacker et al., 2017).

Developmental aspects of writing proficiency and pragmatic skills

Secondly, developmental aspects of how students talk and write together, may be an important aspect to scrutinize in future research, to understand how students' writing and pragmatic skills may develop as they become more experienced in collaborative writing. And although the current study can be positioned within the line of a growing amount of conversational analytic research demonstrating how interaction shapes knowledge, a more developmental orientation to learning would be an important perspective for future CA research (Gardner, 2019). The traditional focus on short sequences can display learning in the sites of unfolding, moment by moment classroom interaction, but it is generally agreed that learning is not linear and that it takes place over time. Recording and analysing a series of related writing activities (Gardner, 2019) would therefore be an advantageous approach to study both differences between students and changes over time.

The outcomes of a more detailed study of developmental aspects of writing proficiency, may then provide information on the basis of which pedagogical steps can be taken. An interesting aspect based on the current research as concerns writing proficiency would be to take this naturally occurring metatalk (Parr & Wilkinson, 2016) related to writers' choices, as a starting point to orient primary school children more explicitly to connections between grammar and writing (Myhill & Newman, 2016), and different genres (Hyland, 2005; Heuboeck, 2009; Martin, 2009). This may help students to become more skilled writers (Bereiter and Scardamalia, 1983), and furthermore: an increased linguistic awareness benefits less proficient writers (Myhill, et al., 2018). As the different studies have shown, students are oriented to various kinds of knowledge, for instance requirements for certain genres and correct spelling and grammar, which indicates the writing strategies of students. However, it was also observed that procedural proposals, about how to approach the writing task, and linguistic issues are in general not elaborated upon. To advance linguistic awareness of students, peer talk on these specific aspects of writing may be prompted deliberately, for instance regarding matters of text structure and register of specific genres. Furthermore, it would be useful to focus on aspects of participation of the students in terms of development in pragmatic skills (e.g. proffering proposals, (dis)agreeing, accounting), especially concerning matters of deontic and epistemic authority. When students were writing down new content, some patterns occurred showing how older students would instruct younger students, or monitor the

writing of the peer extensively, which in some cases led to other-corrections (see chapter 3). Contrary to what Blum-Kulka and Snow (2004) observed in peer talk of younger children, these 'expert–novice roles' did not change; the students were not situated alternately in the learning or teaching position. Studying the interaction of students in series of related collaborative writing events, may well generate more detailed insights in how pragmatic skills within this context can grow.

The insights may benefit writing education in Dutch primary schools, which may be generally characterized as a process-oriented approach from a broad perspective on writing (Hoogeveen, 2018; Van Gelderen, 2010), although research in the primary school classrooms, among which periodic inquiry from the Dutch Inspectorate for Education, has shown that writing education is predominantly product-oriented (Pullens, 2012; Bonset & Hoogeveen, 2015; Henkens, 2012). A recent inquiry by Rietdijk et al. (2018) demonstrated however that teachers mainly support a view of writing as a way to create a text involving personal thinking (a transactional view on writing; White & Bruning, 2005), rather than as a way to provide readers with information from authoritative sources (regarding 'correct writing' as the main focus of writing instruction). Observing students while writing together and taking a more process oriented approach to the joint construction of texts, including attention to the role of creative interthinking (Mercer & Littleton, 2010), may be important conditions for optimizing writing practices in the primary school classrooms.

The same applies to how the development of pragmatic skills of the students may be stimulated and how observing students who are talking together in peer groups (with mixed ages) is important for a better understanding and helps to identify opportunities to build on what the students are already showing. In 2016-2017 a national assessment of oral language skills was conducted by the Dutch Inspectorate of Education (Van Langen et al., 2017), and an interpretation of the results by a group of experts (Inspectie van het Onderwijs, 2019) emphasized the importance of teachers being intentional and focused on achieving the learning objectives for oral language skills. Close observations of what students actually do in joint conversations can be a good starting point for this, as was experienced during the period of data collection. In the design of the main project (Berenst, 2011) in which the data for this research were collected (see section 2.3.1), observations using video data were repeatedly discussed with the teachers. The structure of Educational Design Research (Plomp & Nieveen, 2007; Walker, 2006) enabled us to optimize the conditions for peer talk, in consultation with the teachers, who themselves indicated observing and discussing observations provided them with a better understanding of the oral language skills of individual students and of the group as a whole.

Changes in the propositional content of ideas

A third aspect of the findings that is interesting to scrutinize in more detail, is how the propositional content of the students' epistemic displays changes in the course of the interaction. The basic assumption for sustained creative work with ideas, is that ideas are always improvable (Scardamalia & Bereiter, 2003; 2010). In the current research, it was established how students share knowledge (chapter 4),and as an associated aspect of these analyses, attention was paid to the nature of that knowledge. For world knowledge (Bereiter, 2002), a distinction was made between personal knowledge and knowledge that was characterized as typical school knowledge (Hedegaard, 2008).

When participants discuss the nature of the exposed knowledge, the idea or knowledge itself may change in the course of the interaction, for instance how a topic is constituted (Button & Casey, 1984) and developed over time (Melander & Sahlström, 2009), or expanded with a related idea (Klein, 2014; Vass et al., 2014). An interesting question then is how the propositional content (Enfield, 2011) of the ideas change, in order to gain a better understanding of what students are learning within different interactional patterns when talking and writing together. To give an illustrative example from the current research: in the interaction of the students who were writing a letter to children of a nearby village in order to collect information about the history of that place (see chapter 2, excerpts 1 and 5, and chapter 3, excerpt 3), a variety of topics were made relevant. The students discussed 'old stuff' (further defined *in contrast to* modern appliances), feasts and parties (further *specified* to birthday parties and national happenings like Christmas and Eastern), cleaning (of people *and* houses including the question *how well* that could actually be done), and cooking (did people have gas, so how was this *technically* done, and what was the favourite food of people in the early days, discussing the topic from a more *personal, evaluative point of view*). It would be interesting to understand how specific conversational actions in the peer talk may lead to specific modifications (among which improvements) of ideas, in terms of for instance dynamic, static or elaborative relationships,(O'Donnell et al., 2002) or modifications from unelaborated to elaborated facts and explanations (Zhang, Scardamalia, Reeve & Messina, 2009). From a methodological point of view, however, this also raises the question of what would be a suitable way of doing this.

CA uses the approach to membership categorization analysis (based on Sacks, 1972; see Fitzgerald, & Housley, 2015) in order to map out the ways and methods people orient, invoke and negotiate social category based knowledge when engaged in social action. Membership categorisation analysis "gives researchers with a primary interest in categorical or 'topical' (e.g. gender, sexuality, ethnicity, identity), rather than sequential, issues an empirically tractable method for studying those issues, as members', rather than analysts', categories" (Stokoe, 2012, p.278). Categories in conversation (e.g. 'mother' or 'child') are understood to 'belong' to a collective category (e.g. 'family'), and further

analysis may then bring to light specific category-bound activities and category-tied predicates, that are made relevant by the speaker. An analysis may start with an interest in a particular category in mind, or with a more inductive 'noticing' of spoken (or written) interactional materials. Applying this latter line of attack to my data, raises however some fundamental issues, since the focus is not on social categories (categories of culture and society, Fitzgerald, & Housley, 2015), but on world knowledge (Bereiter, 2002) that is displayed by the students. And although categorisation in social life seems to be relatively accessible in terms of what may be regarded as a collective category and which categories may be seen as members of that grouping, it is not always clear what may best be regarded as such, when analysing world knowledge. Using the example above, a thought-provoking question would be for instance whether a category needs to be explicated at some point by the interlocutors (e.g. 'the history of the village'), and if not, to what extent the researcher is 'permitted' to formulate categories, which would actually contradict strongly with one of the main principles of CA, being the inductive approach of conversational data and taking in essence a participants' perspective, starting from what participants make observable for each other. An interesting question would also be whether or not 'parties' functions as an independent category, holding the 'members' birthday parties and Christmas and Eastern, or that 'domestic and everyday' life would be more of a category, including how people celebrated, together with how people used to do the laundry. And as to the latter, would a comparison with how people do things today (as the students regularly did) still fall into that same category? These are all intriguing questions that invite for further exploration of how this approach, whether or not in combination with other categories, may contribute to a better understanding of how worldly knowledge develops in peer talk.

The role of affect in group work

As a final point, this research gives rise to the impression that affiliation and affect in peer talk are important aspects of how the collaborative writing is accomplished, as was particularly demonstrated in the context of how students make 'knowing' within the peer group relevant (see chapter 5). Being (more) aware of the moral dimensions of knowing (Stivers et al., 2011) and designing collaborative writing events accordingly, may strengthen the processes and outcomes of these events, since 'ground rules' for listening, sharing information and cooperating (Mercer et al., 1999) may then be guaranteed. Structural equality in status allows for reciprocity in expert–novice roles (Blum-Kulka & Snow, 2004). Also, creativity and interthinking (Mercer & Littleton, 2010) are strongly interconnected to affective facets and the emotion order of social relations (Stevanovic and Peräkylä, 2014), and according to Melander Bowden (2019) affective engagement is an important aspect of students' participation in an activity. Vass et al. (2014) argue that in order to understand learning and development, a shift is needed: "reason is

often overemphasised in research on shared meaning making, especially in creative contexts. In order to capture the essence of productive collaboration – or, as in our case, of creative work in the classroom – we need to extend our assumptions about what such successful togetherness entails and how it is achieved" (Vass et al. 2014, p.75). In accordance with that, it is important to recognize and acknowledge the function of writing as a 'thinking tool' (Tynjälä et al., 2001), and accordingly the value of the creative aspects of writing (Sharples, 1996) and thinking together. Creativity is "is not only a function of the individual capacity for imagining alternatives and possibilities; it is the result of participation in events where members of a group creatively display their intentions and negotiate new alternatives for the interpretation of actions in situated activity systems" (Fernández-Cárdenas, 2008, p.215).

A related aspect, that was not addressed in the current research although several examples were identified, is verbal creativity, which has proven to be an essential element of for instance the task of solving reasoning test problems in small groups (Vass et al., 2014). In fact, Wegerif (2005) refers to playful talk as a 'neglected fourth type of talk', referring to the three 'types of talk' in collaborative learning (disputational, cumulative and exploratory talk; Mercer, 1995), as were established with use of Sociocultural Discourse analysis (Mercer, 2004; Littleton and Mercer, 2010). "Incorporating the understanding of creativity in talk should help us to expand the original notion of exploratory talk into a broader dialogical model of reason, for use in education, that includes all talk that helps forge new shared understanding" (Wegerif 2005, p.227).

Since affiliation and affect seem to play a role in how the students accomplish joint writing activities, future work is recommended to analyse patterns that display how the students relate to these dimensions in more detail. The observations may then be extended to other relevant phenomena, such as gaze (Heller, 2018), embodied actions (Yasui, 2013) and playful laughter (Holt, 2016). As was mentioned before, the more detailed knowledge may then be taken into account by educational practitioners aiming at optimization of collaborative writing events.

To finalize, the research in this thesis has contributed to a better understanding of how students in middle and upper grades of primary school create a written product and share and discuss knowledge together, when they are engaged in their own project for inquiry learning. The students were trying to find answers to their own research questions concerning a variety of themes, meanwhile utilizing writing for different purposes. Applying CA to the conversational data enabled me to analyse the different phenomena and patterns comprehensively, and the detail of the observations contributed especially to the existing knowledge of how primary school students write and learn together. The studies have shown how the students propose and discuss ideas for the text, how they reflect on choices concerning what will be written down, meanwhile paying attention to

how this can be done in a linguistically correct manner. In the course of the interaction, the students share knowledge with each other, discuss and build on ideas, and explicitly refer to 'knowing' of oneself and their peers, making similarities and differences relevant and observable for each other. In essence, the four studies displayed from different angles how talking, writing and knowing are essentially intertwined. And although one of the students in my data claimed that "you cannot read a book while riding a horse", suggesting that doing multiple things at once is too difficult, the children have convincingly demonstrated that they are well able to juggle all the different facets of collaboratively producing one written product together, as they autonomously work on their inquiry learning projects and share and discuss all kinds of knowledge and original ideas.

References

References

Abbeduto, L., & Rosenberg, S. (1985). Children's knowledge of the presuppositions of know and other cognitive verbs. *Journal of Child Language*, 12(3), 621-641. doi:10.1017/S0305000900006693

Abdi, R., Rizi, M. T., & Tavakoli, M. (2010). The cooperative principle in discourse communities and genres: A framework for the use of metadiscourse. *Journal of Pragmatics, 42*(6), 1669-1679. http://dx.doi.org/10.1016/j.pragma.2009.11.001

Alexander, R. (2008). *Towards Dialogic Teaching: Rethinking Classroom Talk*. Cambridge: Dialogos.

Antaki, C. (2011). *Applied Conversation Analysis. Intervention and Change in Institutional Talk* Palgrave Macmillan.

Arvaja, M., Häkkinen P., Eteläpelto A., & Rasku-Puttonen, H. (2000). Collaborative processes during report writing of a science learning project: the nature of discourse as a function of task requirements. *European Journal of Psychology of Education*, 15(4), 455–466.

Asmuß, B. (2011). Proposing shared knowledge as a means of pursuing agreement. In T. Stivers, L. Mondada & J. Steensig (Eds.), *The Morality of Knowledge in Conversation* (pp. 207-234). Cambridge: Cambridge University Press.

Atkinson, J. M. (1982). Understanding formality: the categorization and production of 'formal' interaction. The British Journal of Sociology, 33(1), 86–117.

Baaijen, V. M. (2012). *The development of understanding through writing* (dissertation). University of Groningen.

Baaijen, V. M., & Galbraith, D. (2018). Discovery through writing: relationships with writing processes and text quality. *Cognition and Instruction*, *36*(3), 199–223.

Back, M. (2016). Epistemics and expertise in peer tutoring interactions: Co-constructing knowledge of spanish. Modern Language Journal, 100(2): 508-521. doi:10.1111/modl.12334

Barton, D. and M. Hamilton (1998). *Local Literacies : Reading and Writing in One Community*. London: Routledge.

Bassano, D. (1996). Functional and formal constraints on the emergence of epistemic modality: a longitudinal study on French. *First Language*, 16(46), 077–113. https://doi.org/10.1177/014272379601604605

Bereiter, C. (2002). *Education and mind in the knowledge age.* Routledge.

Bereiter, C., & Scardamalia, M. (1987). *The psychology of written composition* Hillsdale, NJ: Lawrence Erlbaum.

Berenst, J. (2011). Samenwerken en taalvaardigheid. Samenwerkend leren als werkvorm voor de stimulering van de mondelinge en schriftelijke taalvaardigheid van basisschoolkinderen. Raak-PRO projectvoorstel (NWO-SIA projectnummer PRO-3-29, 2012). Leeuwarden: NHL Hogeschool. [Collaboration and language skills. Collaborative learning as a method for stimulating the oral and written language skills of primary school children. Project proposition]

Berenst, J. (2012). *Taalgebruik in de klas, als basis voor kennisconstructie*. Verkorte lectorale rede, 17 januari 2012. NHL Hogeschool, Lectoraat Taalgebruik & Leren. [Language use in the classroom, as a basis for knowledge construction. Lecture speech].

Blikstad-Balas, M., Roe, A., & Klette, K. (2018). Opportunities to write: An exploration of student writing during language arts lessons in Norwegian lower secondary classrooms. *Written Communication, 35*(2), 119-154. doi:10.1177/0741088317751123

Blum-Kulka, S., & Snow, C. E. (2004). Introduction: The Potential of Peer Talk. *Discourse Studies*, 6(3), 291–306. https://doi.org/10.1177/1461445604044290

Boden, D. (1994). *Business of Talk*. New Jersey: Wiley.

Bonset, H., & Hoogeveen, M. (2015). *Schrijven in het basisonderwijs opnieuw onderzocht. Een inventarisatie van empirisch onderzoek van 2004 tot 2014*. [Writing in primary education re-examined. An inventory of empirical research from 2004 to 2014]. Enschede: SLO.

Bouwer, R. & Koster, M. (2016). *Bringing Writing Research in the Classroom: The effectiveness of Tekster, a newly developed writing program for elementary students* (dissertation). Utrecht: Universiteit Utrecht.

Bremner, S., Peirson-Smith, A., Jones, R., & Bhatia, V. (2014). Task Design and Interaction in Collaborative Writing. The Students' Story. *Business and Professional Communication Quarterly, 77*(2), 150-168.

Button, G. & Casey, N. (1984). Generating topic: the use of topic initial elicitors. In J. Heritage & J.M. Atkinson (Eds.), Structures of social action(pp. 167–190). Cambridge, UK: Cambridge University Press.

Camps, A., & Milian, M. (2000). Metalinguistic Activity in Learning to Write: An Introduction. In A. Camps, & M. Milian (Eds.), *Metalinguistic Activity in Learning to Write* (pp. 1-28). Amsterdam: Amsterdam University Press.

Camps, A., Guasch, O., Milian, M., & Ribas, T. (2000). Metalinguistic activity: the link between writing and learning to write. Metalinguistic activity in learning to write. (pp. 103-124). Amsterdam: Amsterdam University Press.

Cekaite, A. (2009). Collaborative corrections with spelling control: digital resources and peer assistance. *International Journal of Computer-Supported Collaborative Learning*. An Official Publication of the International Society of the Learning Sciences, 4(3), 319–341. https://doi.org/10.1007/s11412-009-9067-7

Cekaite, A. (2020). *Ethnomethodological approaches*. In P. Vannini (Ed.), The Routledge International Handbook of Ethnographic Film and Video (1st ed., pp. 83-94) Routledge.

Chen, H., & Myhill, D. (2016). Children talking about writing: Investigating metalinguistic understanding. *Linguistics and Education, 35*, 100-108. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.linged.2016.07.004

Chen, Y. (2011). *Examining the integration of talk and writing for student knowledge construction through argumentation*. PhD thesis. University of Iowa.

Clark, H. (1996). *Using language*. Cambridge: Cambridge University Press.

Clayman, S. E. (2012). *Turn-constructional units and the transition-relevance place* doi:doi: 10.1002/9781118325001.ch8

Clift, R., & Holt, E. (2006). Introduction. In E. Holt & R. Clift (Eds.), Reporting Talk: Reported Speech in Interaction (Studies in Interactional Sociolinguistics, pp. 1-15). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511486654.002

Clift, R., & Raymond, C. (2018). Actions in practice: On details in collections. *Discourse Studies*, 20(1), 90-119. doi:10.1177/1461445617734344

Clift, R., & Raymond, C. (2018). Actions in practice: On details in collections. *Discourse Studies*, 20(1), 90-119. doi:10.1177/1461445617734344

Collins, A., J. D., & Bielaczyc, K. (2004). Design research: Theoretical and methodological issues. *The Journal of the Learning Sciences*, 13(1): 15-42.

Collins, A., Joseph, D., & Bielaczyc, K. (2004). Design research: Theoretical and methodological issues. *The Journal of the Learning Sciences*, 13(1): 15-42.

Couper-Kuhlen, E. (2014). What does grammar tell us about action? *Pragmatics, 24*(3), 623-647. doi:10.1075/prag.24.3.08cou

Couper-Kuhlen, E., & Etelämäki, M. (2015). Nominated actions and their targeted agents in Finnish conversational directives. *Journal of Pragmatics, 78*, 7-24. doi:http://dx.doi.org/10.1016/j.pragma.2014.12.010

Craft, A. (2008). Studying collaborative creativity: implications for education. *Thinking Skills and Creativity*, 3(3), 241–245. https://doi.org/10.1016/j.tsc.2008.09.006

D'warte, J. (2012). Talking about texts: Middle school students' engagement in metalinguistic talk. *Linguistics and Education, 23*(1), 123-134. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.linged.2011.07.001

Daiute, C. (1989). Play as thought: thinking strategies of young writers. Harvard Educational Review, 59(1), 1–24. https://doi.org/10.17763/haer.59.1.t232r3845h4505q5

Dale, H. (1994) Collaborative Writing Interactions in One Ninth-Grade Classroom, The Journal of Educational Research, 87:6, 334-344, DOI: 10.1080/00220671.1994.9941264

Dalton-Puffer, C. (2007). *Discourse in Content and Language Integrated Learning (CLIL) Classrooms* (Series: Language Learning & Language Teaching, v. 20 ed.) John Benjamins Publishing Co.

Damşa, C. I., & Ludvigsen, S. (2016). Learning through interaction and co-construction of knowledge objects in teacher education. *Learning, Culture and Social Interaction, 11*, 1-18. doi:http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.lcsi.2016.03.001

Deane, P., Odendahl, N., Quinlan, T., Fowles, M., Welsh, C., & Bivens-Tatum, J. (2008). *Cognitive Models of Writing: Writing Proficiency as a Complex Integrated Skill.* Princeton, NJ: Educational Testing Service.

Deane, P., O'Reilly, T., Chao, S.-F., & Dreier, K. (2018). Writing processes in short written responses to questions probing prior knowledge. Ets Research Report Series, 2018(1), 1–30. https://doi.org/10.1002/ets2.12226

Dolz, J., & Erard, S. (2000). Metaverbal activities as an approach to teach spoken and written genres. *Metalinguistic activity in learning to write.* (pp. 125-145). Amsterdam: Amsterdam University Press.

Donahue, C., & Lillis, T. (2014). Models of writing and text production. In E. Jakobs, & D. Perrin (Eds.), Handbook of Writing and Text Production (pp. 55-78) De Gruyter. https://doi-org.proxy-ub.rug.nl/10.1515/9783110220674.55

Drew, P., & Heritage, J. (1992). Talk at work : interaction in institutional settings (Ser. Studies in interactional sociolinguistics, 8). Cambridge University Press.

Duff, P. A. (2002). The Discursive Co-construction of Knowledge, Identity, and Difference: an Ethnography of Communication in the High School Mainstream. *Applied Linguistics, 23*(3), 289-322.

Enfield, N. J. (2011). Sources of asymmetry in human interaction: Enchrony, status, knowledge and agency. In T. Stivers, L. Mondada & J. Steensig (Eds.), *The morality of knowledge in conversation* (pp. 285-312). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511921674.013

Enfield, N., Brown, P., & De Ruiter, J. (2012). Epistemic dimensions of polar questions:. In J. De Ruiter (Ed.), *Questions: Formal, Functional and Interactional Perspectives* (Language Culture and Cognition, pp. 193-221). Cambridge: Cambridge University Press. doi:10.1017/CBO9781139045414.014

Enfield, N.J. & Sidnell, J. (2017). On the concept of action in the study of interaction. *Discourse Studies, 19*(5), 515-535. doi:10.1177/1461445617730235

Eteläpelto, A., & Lahti, J. (2008). The resources and obstacles of creative collaboration in a long-term learning community. *Thinking Skills and Creativity*, *3*(3), 226–240. https://doi.org/10.1016/j.tsc.2008.09.003

Fernández Dobao, A. (2012). Collaborative writing tasks in the L2 classroom: Comparing group, pair, and individual work. *Journal of Second Language Writing, 21*(1), 40-58. http://dx.doi.org/10.1016/j.jslw.2011.12.002

Fernández Dobao, A., & Blum, A. (2013). Collaborative writing in pairs and small groups: Learners' attitudes and perceptions. *System, 41*(2), 365-378. doi:http://dx.doi.org/10.1016/j.system.2013.02.002

Fernández-Cárdenas, J. M. (2008). The situated aspect of creativity in communicative events: how do children design web pages together? Thinking Skills and Creativity, 3(3), 203–216. https://doi.org/10.1016/j.tsc.2008.09.007

Fischer, F., Bruhn, J., Grasel, C., & Mandl, H. (2002). Fostering collaborative knowledge construction with visualization tools. *Learning and Instruction, 12*, 213-232.

Fitzgerald, R., & Housley, W. (2015). Advances in membership categorisation analysis. 55 City Road, London: SAGE Publications Ltd doi: 10.4135/9781473917873

Flower, L., & Hayes, J. (1980). Identifying the Organization of Writing Processes. In L. W. Gregg, & E. R. Steinberg (Eds.), *Cognitive Processes in Writing.* (pp. 3-30). Hillsdale, N.J.: Erlbaum.

Fox Tree, J., & Schrock, J. (2002). Basic meanings of you know and I mean. Journal of Pragmatics, 34(6), 727-747. doi:10.1016/S0378-2166(02)00027-9

Frame, B. (2006). Storyline, a cross-curricular approach: It's capacity for promoting and fostering a thinking classroom. In S. Bell, S. Harkness & G. White (Eds.), *Storyline. past, present & future* (pp. 126-149). Glasgow: University of Strathclyde.

Freebody, P. (2003). *Qualitative Research in Education. Interaction and practice.* SAGE Publications, London

Freebody, P. (2013). School knowledge in talk and writing: Taking 'when learners know' seriously. *Linguistics and Education, 24*, 64-74.

Galbraith, D. (1999). Writing as a Knowledge Constituting Process. In M. Torrance, & D. Galbraith (Eds.), Knowing what to write (pp. 139-160) Amsterdam University Press.

Galbraith, D. (2009). Cognitive models of writing. *German as a Foreign Language,* (2-3), 7-22.

Gardner, R. (2001). When listeners talk : response tokens and listener stance (Ser. Pragmatics & beyond. new series, vol. 92). Benjamins.

Gardner, R. (2019). Classroom interaction research: the state of the art. *Research on Language and Social Interaction*, 52(3), 212–226. https://doi.org/10.1080/08351813.2019.1631037

Gardner, R., & Levy, M. (2010). The coordination of talk and action in the collaborative construction of a multimodal text. *Journal of Pragmatics, 42*(8), 2189-2203. doi:http://dx.doi.org/10.1016/j.pragma.2010.01.006

Gardner, R., & Mushin, I. (2017). Epistemic trajectories in the classroom: How children respond in informing sequences. In A. Bateman, & A. Church (Eds.), *Children's knowledge-in-interaction.* (pp. 13-36). Singapore: Springer Science+Business Media. Retrieved from doi: 10.1007/978-981-10-1703-2_2

Gee, J. P. (2004). *Situated Language and Learning : A Critique of Traditional Schooling.* New York: Routledge.

Gelderen, A. van (2010). *Leerstoflijnen schrijven beschreven. Uitwerking van het referentiekader Nederlandse taal voor het schrijfonderwijs op de basisschool*. SLO Enschede / Kohnstamm Instituut Amsterdam (A description of the writing curriculum in primary education)

Gere, A. R., Limlamai, N., Wilson, E., MacDougall Saylor, K., & Pugh, R. (2019). Writing and conceptual learning in science: An analysis of assignments. *Written Communication, 36*(1), 99-135.

Goffman, E. (1967). Interaction ritual; essays on face-to-face behavior ([1st ed.] ed., Anchor books, a596). Garden City, N.Y: Doubleday.

Goffman, E. (1981). *Forms of talk*. Oxford: Blackwell.

Goodwin, C., & Goodwin, M. (2004). Participation. In A. Duranti (Ed.), *A companion to linguistic anthropology* (pp. 222-244). Malden, USA: Blackwell Publishing Ltd.

Gosen, M. & T. Koole (2017). Conversation Analysis. In: D. Wyse, N. Selwyn, E. Smith & L.E. Sutter (Eds.), *The BERA/SAGE Handbook of Educational Research* (pp.791-811). London: Sage

Graham, S. (2018) A Revised Writer(s)-Within-Community Model of Writing, Educational Psychologist, 53:4, 258-279, DOI: 10.1080/00461520.2018.1481406

Graham, S., Kiuhara, S. A., & MacKay, M. (2020). The Effects of Writing on Learning in Science, Social Studies, and Mathematics: A Meta-Analysis. Review of Educational Research, 90(2), 179-226. doi:10.3102/0034654320914744

Grésillon, A., & Perrin, D. (2014). Methodology: From speaking about writing to tracking text production. In E. Jakobs, & D. Perrin (Eds.), *Handbook of Writing and Text Production* (pp. 79-112). De Gruyter. https://doi-org.proxy-ub.rug.nl/10.1515/9783110220674.79

Grice, P. (1975). Logic and conversation. In P. Cole, & J. L. Morgan (Eds.), *Syntax and Semantics* (vol. 3 ed., pp. 41-58). New York: Academic Press.

Gutiérrez, X. (2016). Analyzed knowledge, metalanguage, and second language proficiency. *System, 60*, 42-54. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.system.2016.06.003

Hacker, D. J., Keener, M. C., & Kircher, J. C. (2017). Traktext: investigating writing processes using eye-tracking technology. Methodological Innovations, 10(2), 205979911668957–205979911668957. https://doi.org/10.1177/2059799116689574

Hasan, R. (2002). Semiotic mediation and mental development in pluralistic societies: Some implications for tomorrow's schooling. In G. Wells, & G. Claxton (Eds.), *Learning for life in the 21st century: Sociocultural perspectives on the future of education.* (pp. 112-126). Oxford: Blackwell.

Have ten, P. (2007). *Doing conversation analysis*. London: Sage.

Hayes, J. R. (1996). A New Framework for Understanding Cognition an Affect in Writing. In C. M. Levy, & S. Randell (Eds.), *The Science of Writing. Theories, Methods, Individual Differences and Applications.* (pp. 1-27). Mayhwah, New Jersey: Lawrence Erlbaum.

Hayes, J. R. (2006). New Directions in Writing Theory. In C. A. MacArthur, S. Graham & J. Fitzgerald (Eds.), Handbook of Writing Research, First Edition (pp. 28-40) The Guilford Press.

Hayes, J. R. (2011). Kinds of Knowledge-Telling: Modeling Early Writing Development. *Journal of Writing Research, 3*(2), 73-92.

Hedegaard, M. (2008). Children's learning through participation in institutional practice: A model from the perspective of cultural-historical psychology. In B. van Oers, W. Wardekker, E. Elbers & R. van der Veer (Eds.), *The transformation of learning: Advances in cultural-historical activity theory* (pp. 294-318). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511499937.019

Heller, V. (2018). Embodying epistemic responsibility. Research on Children and Social Interaction, 2(2), 262-285. doi:10.1558/rcsi.37391

Henkens, L. (2012). Focus op schrijven. Het onderwijs in het schrijven van teksten (stellen). Inspectie van het Onderwijs. (Focus on writing. Education in text writing. A publication of the Dutch Inspectorate of Education)

Hennessy, S., Howe, C., Mercer, N., and Vrikki, M. (2020). Coding classroom dialogue: Methodological considerations for researchers. *Learning, Culture and Social Interaction*, vol. 25. https://doi.org/10.1016/j.lcsi.2020.100404.

Herder, A., Berenst, J., De Glopper, K., & Koole, T. (2018a). Nature and function of proposals in collaborative writing of primary school students. *Linguistics and Education*, 46, 1-11. doi:10.1016/j.linged.2018.04.005

Herder, A., Berenst, J., De Glopper, K., & Koole, T. (2018b). Reflective practices in collaborative writing of primary school students. *International Journal of Educational Research*, 90, 160-174.

Herder, A., Berenst, J., De Glopper, K., & Koole, T. (2020). Sharing knowledge with peers: Epistemic displays in collaborative writing of primary school children. *Learning, Culture and Social Interaction*, 24. doi:10.1016/j.lcsi.2020.100378

Herder, A., Hiddink, F., Prenger, J., & Pulles, M. (2013). *Samen onderzoeken. Drie onderzoeksprojecten voor groep 1 t/m 8*. [Investigating together. Three research projects for grades 1 to 6]. Leeuwarden: NHL Hogeschool, Lectoraat Taalgebruik & Leren

Heritage, J. & Sefi, S. (1992) Dilemmas of Advice: aspects of the delivery and reception of advice in interactions between health visitors and first-time mothers. Drew, P. and Heritage, J. (eds.) *Talk at Work*. (pp. 359-417). Cambridge : Cambridge University Press.

Heritage, J. (1984a). A change-of-state token and aspects of its sequential placement. In J. M. Atkinson & J. Heritage (Eds.), *Structures of social action* (pp. 299–345). Cambridge, England: Cambridge University Press.

Heritage, J. (1984b). Garfinkel and Ethnomethodology. Cambridge: Cambridge University Press.

Heritage, J. (2004). Conversation analysis and institutional talk: analysing data. In Silverman, D. (Eds.). Qualitative Research: Theory, Method and Practice (David Silverman, ed.), London, Sage Publications, pp. 222–245.

Heritage, J. (2012a). The epistemic engine: Sequence organization and territories of knowledge. *Research on Language & Social Interaction, 45*(1), 30-52.

Heritage, J. (2012b). Epistemics in action: Action formation and territories of knowledge. *Research on Language & Social Interaction, 45*(1): 1-29. doi:10.1080/08351813.2012.646684

Heritage, J. (2013). Epistemics in conversation. In J. Sidnell, & T. Stivers (Eds.), *The handbook of conversation analysis* (pp. 370-394). Chichester, West Sussex, UK: Wiley-Blackwell.

Heritage, J. and Sefi, S. (1992) Dilemmas of Advice: aspects of the delivery and reception of advice in interactions between health visitors and first-time mothers. Drew, P. and Heritage, J. (eds.) *Talk at Work*. (pp. 359-417). Cambridge : Cambridge University Press.

Heritage, J. (2005). Cognition in discourse. In H. t. Molder, & J. Potter (Eds.), Conversation and Cognition (pp. 184-202). Cambridge: Cambridge University Press.

Heritage, J., & Raymond, G. (2005). The terms of agreement: Indexing epistemic autority and subordination in talk-in-interaction. *Social Psychology Quarterly, 68*(1): 15-38.

Heuboeck, A. (2009). Some Aspects of Coherence, Genre and Rhetorical Structure – and Their Integration in a Generic Model of Text. *Language Studies Working Papers - University of Reading, 1*, 35-45.

Hickmann, M., & Bassano, D. (2016). Modality and Mood in First Language Acquisition. In Nuyts, J., & Auwera, J. van der (Eds.). *The Oxford Handbook of Modality and Mood*. Oxford University Press/ Oxford Handbooks Online. DOI: 10.1093/oxfordhb/9780199591435.001.0001

Hiddink, F. (2019). *Early childhood problem-solving interaction : young children's discourse during small- group work in primary school* (dissertation). University of Groningen.

Holt, E. (2016). Laughter at last: playfulness and laughter in interaction. *Journal of Pragmatics*, 100, 89– 102. https://doi.org/10.1016/j.pragma.2016.04.012

Hoogeveen, M. (2018). *Het schrijfonderwijs in primair en voortgezet onderwijs. Een stand van zaken en curriculaire aanbevelingen*. [Writing education in primary and secondary education. A state of affairs and curricular recommendations].Enschede: SLO.

Hoogeveen, M. & A. van Gelderen (2018). Writing with peer response using different types of genre knowledge: Effects on linguistic features and revisions of sixth-grade writers*, The Journal of Educational Research*, 111:1, 66-80, DOI: 10.1080/00220671.2016.1190913

Houen, S., Danby, S., Farrell, A., & Thorpe, K. (2017). Web searching as a context to build on young children's displayed knowledge. In A. Bateman, & A. Church (Eds.), *Children's knowledge-in-interaction.* (pp. 57-72). Singapore: Springer Science+Business Media. Retrieved from doi: 10.1007/978-981-10-1703-2_2;

Houtkoop-Steenstra, H. (1987). *Establishing agreement: an analysis of proposal-acceptance sequences.* Dordrecht/Providence: R.I.: Foris Publications.

Houtkoop-Steenstra, H. (1990). Accounting for proposals. *Journal of Pragmatics, 14*(1), 111-124. http://dx.doi.org/10.1016/0378-2166(90)90066-M

Howe, C. (2010). Peer dialogue and cognitive development. A two-way relationship? In K. Littleton, & C. Howe (Eds.), *Educational dialogues, understanding and promoting productive interaction.* (pp. 32-47). London: Routledge.

Huth, T. (2011). Conversation analysis and language classroom discourse. *Language and Linguistics Compass*, 5(5), 297–309. https://doi.org/10.1111/j.1749-818X.2011.00277.x

Hyland, K. (1998). Persuasion and context: The pragmatics of academic metadiscourse. *Journal of Pragmatics, 30*(4), 437-455. http://dx.doi.org/10.1016/S0378-2166(98)00009-5

Hyland, K. (2005). *Metadiscourse: Exploring Interaction in Writing.* London: Continuum.

Hyland, K. (2007). Genre pedagogy: Language, literacy and L2 writing instruction. *Journal of Second Language Writing, 16*, 148-164.

Hyland, K. (2010). Hyland, K. (2010). Metadiscourse: mapping interactions in academic writing. Nordic journal of English Studies. Special Issue on Metadiscourse. *Nordic Journal of English Studies. Special Issue on Metadiscourse., 9*(2), 125-143.

Hyland, K. (2017). Metadiscourse: What is it and where is it going? *Journal of Pragmatics, 113*, 16-29. https://doi-org.proxy-ub.rug.nl/10.1016/j.pragma.2017.03.007

Hymes, D. H. (1972). Models of the interaction of language and social life. In J. J. Gumperz, & D. Hymes (Eds.), *Directions in sociolinguistics: The ethnography of communication.* (pp. 35-71) New York: Holt, Rinehart & Winston.

Ifantidou, E. (2005). The semantics and pragmatics of metadiscourse. *Journal of Pragmatics, 37*(9), 1325-1353. http://dx.doi.org/10.1016/j.pragma.2004.11.006

Inspectie van het Onderwijs (2019). *Peil.Mondelinge taalvaardigheid. Einde basisonderwijs 2016 - 2017.* Inspectie van het Onderwijs, Utrecht, maart 2019

Jakonen, T., & Morton, T. (2015). Epistemic search sequences in peer interaction in a content-based language classroom. *Applied Linguistics, 36*(1), 73-94.

Jefferson, G. (2004). Glossary of transcript symbols with an introduction. In *Conversation Analysis: Studies from the First Generation* (Gene H. Lerner, ed.), Amsterdam / Philadelphia, John Benjamins, 13–31.

Jefferson, G. (1984). Transcript notation. In J. Maxwell Atkinson, & J. Heritage (Eds.), *Structures of Social Action: Studies in Conversation Analysis.* (pp. ix-xvi). Cambridge: Cambridge University Press.

Jefferson, G. (1987). On exposed and embedded correction in conversation. In G. Button, & J. R. E. Lee (Eds.), *Talk and social organization.* (pp. 86-100). Clevedon, UK: Multilingual Matters.

Jefferson, G. (1991) List construction as a task and resource. In G. Psathas (Ed.) *Interactional competence* (pp. 63-92). New York, NY: Irvington Publishers.

Jesson, R., & Rosedale, N. (2016). How teachers might open dialogic spaces in writing instruction. *International Journal of Educational Research, 80*, 164-176. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.ijer.2016.08.003

Jesson, R., Fontich, X., & Myhill, D. (2016). Creating dialogic spaces: Talk as a mediational tool in becoming a writer. *International Journal of Educational Research, 80*, 155-163. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.ijer.2016.08.002

Kääntä, L. (2010). *Repair Practices in Classroom Interaction Teacher Turn-Allocation and A Multisemiotic Perspective.* Dissertation, University of Jyväskylä.

Kämäräinen, A., Björn, P., Eronen, L., & Kärnä, E. (2019). Managing epistemic imbalances in peer interaction during mathematics lessons. *Discourse Studies*, , 146144561982923. doi:10.1177/1461445619829236

Kämäräinen, A., Björn, P., Eronen, L., & Kärnä, E. (2019). Managing epistemic imbalances in peer interaction during mathematics lessons. *Discourse Studies*, 146144561982923. doi:10.1177/1461445619829236

Kärkkäinen, E. (2003). Epistemic stance in English conversation : A description of its interactional functions, with a focus on I think (Pragmatics & beyond, new ser. 115). Amsterdam: John Benjamins Pub.

Keevallik, L. (2011a). Grammar for adjusting assumptions: The estonian enclitic -gi/-ki in interaction. Journal of Pragmatics, 43(12), 2879-2896. doi:10.1016/j.pragma.2011.05.001

Keevallik, L. (2011b). The terms of not knowing. In T. Stivers, L. Mondada, & J. Steensig (Eds.), *The Morality of Knowledge in Conversation* (Studies in Interactional Sociolinguistics, pp. 184-206). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511921674.009

Keisanen, T. (2007). Stancetaking as an interactional activity. Challenging the prior speaker. In Englebretson, R. (Ed.), *Stancetaking in Discourse : Subjectivity, Evaluation, Interaction*. (pp. 253-281). Amsterdam: John Benjamins Publishing Co.

Keisanen, T. (2007). Stancetaking as an interactional activity. Challenging the prior speaker. In Englebretson, R. (Ed.), *Stancetaking in Discourse : Subjectivity, Evaluation, Interaction*. (pp. 253-281). Amsterdam: John Benjamins Publishing Co.

Kendrick, K.H. & P. Drew. (2016). Recruitment: Offers, Requests, and the Organization of Assistance in Interaction. *Research on Language and Social Interaction*, 49(1), 1-19.

Keys, C. (1999a). Revitalizing instruction in scientific genres: Connecting knowledge production with writing to learn in science. *Science Education, 2*, 115-130.

Keys, C. (1999b). Language as an indicator of meaning generation: An analysis of middle school students' written discourse about scientific investigations. *Journal of Research in Science Teaching, 9*, 1044-1061.

Kim, M., & Wilkinson, I. A. G. (2019). What is dialogic teaching? constructing, deconstructing, and reconstructing a pedagogy of classroom talk. *Learning, Culture and Social Interaction, 21*, 70-86. doi:10.1016/j.lcsi.2019.02.003

Kimura, D., Malabarba, T. & J. Kelly Hall (2018) Data collection considerations for classroom interaction research: a conversation analytic perspective, *Classroom Discourse*, 9:3, 185-204, DOI: 10.1080/19463014.2018.1485589

Kitzinger, C. (2013). Repair. In J. Sidnell, & T. Stivers (Eds.), *The Handbook of Conversation Analysis. First Edition*. (pp. 229-256) Blackwell Publishing Ltd. 10.1002/9781118325001.ch12

Klein, P. D. (2014). Knowledge Construction in Collaborative Science Writing: Strategic Simplicity, Distributed Complexity, and Explanatory Sophistication. In G. (. E.). Rijlaarsdam, P. D. Klein, P. Boscolo, L. C. Kirkpatrick & C. (. E.). Gelati (Eds.), *Studies in Writing: Vol. 28, Writing as a learning activity*. (pp. 300-326). Leiden: Brill.

Klein, P. D., & Boscolo, P. (2016). Trends in research on writing as a learning activity. *Journal of Writing Research, 7*(3), 311-350. doi:10.17239/jowr-2016.07.03.01

Klein, P. D., Boscolo, P., Gelati, C., & Kirkpatrick, L. C. (2014). New Directions in Writing as a Learning Activity. In G. (. E.). Rijlaarsdam, P. D. Klein, P. Boscolo, L. C. Kirkpatrick & C. (E.). Gelati (Eds.), *Studies in Writing: Vol. 28, Writing as a learning activity*. (pp. 1-14). Leiden: Brill.

Knight, S., & Littleton, K. (2018). *A discursive approach to the analysis of epistemic cognition* doi:https://doi-org.proxy-ub.rug.nl/10.1016/j.lcsi.2017.11.003

Koole, T. & J. Berenst (2008) Pupil participation in plenary interaction, in: Deen, J., M. Hajer & T. Koole (eds.) *Interaction in two multicultural mathematics classrooms*. Mechanisms of inclusion and exclusion. (pp. 107-137) Amsterdam: Aksant.

Koole, T. (2010). Displays of Epistemic Access: Student Responses to Teacher Explanations *Research on Language & Social Interaction, 43*(2), 183-209.

Koole, T., & Elbers, E. (2014). Responsiveness in teacher explanations: A conversation analytical perspective on scaffolding. *Linguistics and Education, 26*(0), 57-69. doi:http://dx.doi.org/10.1016/j.linged.2014.02.001

Koole, T., & Verberg, N. (2017). Aligning caller and call-taker. *Pragmatics and Society, 8*(1), 129-153. doi:10.1075/ps.8.1.07koo

Koss Torkildsen, J. von, Morken, F., Helland, W. A., & Helland, T. (2016). The dynamics of narrative writing in primary grade children: writing process factors predict story quality. Reading and Writing : An Interdisciplinary Journal, 29(3), 529–554. https://doi.org/10.1007/s11145-015-9618-4

Landgrebe, J. (2018). 'I think - you know' Two epistemic stance markers and their significance in an innovation process. *SourceSpråk och interaktion 3, Nordica Helsingiensia 30*: 107-131.

Langen van, A., Druten-Frietman van L., Wolbers, M., Teunissen, C., Strating, H., Dood, C., Geelen, A., Binsbergen, M. (2017). *Peilingsonderzoek Mondelinge Taalvaardigheid in het basisonderwijs*. Rapportage. KBA Nijmegen [National assessment oral skills in primary education].

Latawiec, B. (2012). Metadiscourse in oral discussions and persuasive essays of children exposed to collaborative reasoning (Doctoral dissertation). University of Illinois, Urbana-Champaign.

Laurinen, L. I., & Marttunen, M. J. (2007). Written arguments and collaborative speech acts in practising the argumentative power of language through chat debates. *Computers and Composition, 24*(3), 230-246. doi:http://dx.doi.org/10.1016/j.compcom.2007.05.002

Laury, R., & Helasvuo, M. (2016). Disclaiming epistemic access with 'know' and 'remember' in Finnish. *Journal of Pragmatics*, 106, 80-96. doi:10.1016/j.pragma.2016.07.005

Lave, J., & Wenger, E. (1991). *Situated learning: legitimate peripheral participation*. Cambridge: Cambridge University Press.

Leijten, M., & Van Waes, L. (2013). Keystroke logging in writing research: using inputlog to analyze and visualize writing processes. *Written Communication*, 30(3), 358–392.

Lerner, G. H. (1994). Responsive list construction. A Conversational Resource for Accomplishing Multifaceted Social Action. *Journal of Language and Social Psychology., 13*(1), 20-33.

Lester, J. N., & O'Reilly, M. (2019). *Applied conversation analysis: Social interaction in institutional settings*. Thousand Oaks, California: SAGE Publications, Inc.

Levin, T., & Wagner, T. (2006). In their Own Words: Understanding Student Conceptions of Writing Through their Spontaneous Metaphors in the Science Classroom. *Instructional Science, 34*(3), 227-278.

Levinson, S. C. (2013). Action formation and ascription. In J. Sidnell, & T. Stivers (Eds.), *The handbook of converssation analysis*. (First Edition ed., pp. 103-130) Blackwell Publishing Ltd.

Littleton, K., & Kerawalla, L. (2012). Trajectories of Inquiry Learning. In K. Littleton, E. Scanlon & M. Sharples (Eds.), *Orchestrating inquiry learning*. Chapter 2. Abingdon, NY: Routledge.

Littleton, K., & Mercer, N. (2010). The significance of educational dialogues between primary school children. In C. Howe, & K. Littleton (Eds.), *Educational dialogues: Understanding and promoting productive interaction*. (pp. 271-288). London: Routledge.

Littleton, K., Rojas-Drummond, S., & Miell, D. (2008). Introduction to the special issue: 'Collaborative creativity: Socio-cultural perspectives'. *Thinking Skills and Creativity, 3*(3), 175-176. doi:http://dx.doi.org/10.1016/j.tsc.2008.09.004

Love, K., & Sandiford, C. (2016). Teachers' and students' meta-reflections on writing choices: An Australian case study. *International Journal of Educational Research, 80*, 204-216. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.ijer.2016.06.001

Macbeth, D. (2004). The relevance of repair for classroom correction. *Language and Society*, 33, 703-736.

Macbeth, D. (2009). Understanding understanding as an instructional matter. *Journal of Pragmatics*, 43(2), 438-451. doi:http://dx.doi.org/10.1016/j.pragma.2008.12.006

MacMartin, C., Coe, J.B., & Adams, C.L. (2014). Treating distressed animals as participants: I know responses in veterinarians' pet-directed talk. *Research on Language and Social Interaction*, 47(2), 151-174. doi:10.1080/08351813.2014.900219

Maine, F. (2013). How children talk together to make meaning from texts: A dialogic perspective on reading comprehension strategies. *Literacy*, 47(3): 150-156. doi:10.1111/lit.12010

Margutti, P. (2006). "Are you human beings?" order and knowledge construction through questioning in primary classroom interaction. *Linguistics and Education, 17*(4), 313-346. doi:10.1016/j.linged.2006.12.002

Martin, J. R. (2009). Genre and language learning: A social semiotic perspective. *Linguistics and Education, 20*, 10-21.

Marttunen, M., & Laurinen, L. (2012). Participant profiles during collaborative writing. *Journal of Writing Research, 4*(1), 53-79.

Matre, S., & Solheim, R. (2016). Opening dialogic spaces: Teachers' metatalk on writing assessment. *International Journal of Educational Research, 80*, 188-203. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.ijer.2016.07.001

Mason, L. and P. Boscolo (2000). Writing and conceptual change. what changes? *Instructional Science*, 28(3), 199–226.

Mazeland, H. (2003). *Inleiding in de conversatieanalyse*. Bussum: Coutinho.

Mazeland, H. (2006). Conversation analysis. In K. Brown (Ed.), *Encyclopedia of language & linguistics (second edition)* (pp. 153-163). Oxford: Elsevier. doi:http://dx.doi.org/10.1016/B0-08-044854-2/00314-X

McCarthey, S., & McMahon, S. (1992). From Convention to Invention: Three Approaches to Peer Interactions During Writing. In R. Hertz-Lazarowitz, & N. Miller (Eds.), *Interaction in cooperative groups : the theoretical anatomy of group learning* (pp. 17-35). Cambridge: Cambridge University

Melander, H. (2012a). Knowing how to play the game of jump rope: Participation and stancetaking in a material environment. *Journal of Pragmatics, 44*(11), 1434-1456. doi:10.1016/j.pragma.2012.06.018

Melander, H. (2012b). Transformations of knowledge within a peer group. knowing and learning in interaction. *Learning, Culture and Social Interaction*, 1(3-4): 232-248. doi:10.1016/j.lcsi.2012.09.003

Melander Bowden, H. (2019). Problem-solving in collaborative game design practices: Epistemic stance, affect, and engagement. *Learning, Media and Technology*, 44(2): 124-143.

Melander, H., & Sahlström, F. (2009). In tow of the blue whale : learning as interactional changes in topical orientation. Journal of Pragmatics, 41(8), 1519–1537. https://doi.org/10.1016/j.pragma.2007.05.013

Mercer, N. & K. Littleton (2013). *Interthinking. putting talk to work*. New York: Routledge.

Mercer, N. & K. Littleton (2017). *Dialogue and the Development of Children's Thinking*. London: Routledge.

Mercer, N. (2004). Sociocultural discourse analysis: Analysing classroom talk as a social mode of thinking. *Journal of Applied Linguistics, 1*(2), 137-168.

Mercer, N., & Howe, C. (2012). Explaining the dialogic processes of teaching and learning: The value and potential of sociocultural theory. *Learning, Culture and Social Interaction, 1*(1), 12-21. doi:http://dx.doi.org/10.1016/j.lcsi.2012.03.001

Mercer, N., & Littleton, K. (2007). *Dialogue and the development of children's thinking. A sociocultural approach*. New York: Taylor & Francis Ltd.

Mercer, N., Wegerif, R., & Dawes, L. (1999). Children's talk and the development of reasoning in the classroom. *British Educational Research Journal*, 25(1), 95–111.

Michaels, S., O'Connor, C., & Resnick, L. (2008). Deliberative discourse idealized and realized: accountable talk in the classroom and in civic life. *Studies in Philosophy and Education*, 27(4), 283–297.

Mikesell, L., Bolden, G., Mandelbaum, J., Bolanos-Carpio, A., Searles, D., Wei, W., Angell, B. (2017). At the intersection of epistemics and action: Responding with i know. *Research on Language and Social Interaction*, 50(3): 268-285. doi:10.1080/08351813.2017.1340711

Milian-Gubern, M. (1996). Contextual factors enhancing cognitive and metacognitive activity during the process of collaborative writing. In: G. Rijlaarsdam, H. van den Bergh & M. Couzijn (Eds.) (1996). *Effective Teaching and Learning of Writing*. (372–378). Amsterdam: Amsterdam University Press.

Mondada, L. (2011). The management of knowledge discrepancies and of epistemic changes in institutional interactions. In T. Stivers, L. Mondada & J. Steensig (Eds.), *The morality of knowledge in conversation* (pp. 27-57). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511921674.003

Mondada, L., & Svinhufvud, K. (2016). Writing-in-interaction: studying writing as a multimodal phenomenon in social interaction. *Language and Dialogue*, 6(1), 1–53. https://doi.org/10.1075/ld.6.1.01mon

Morek, M. (2015). Show that you know – explanations, interactional identities and epistemic stance-taking in family talk and peer talk. *Linguistics and Education, 31,* 238-259. doi:http://dx.doi.org/10.1016/j.linged.2014.10.004

Myhill, D. (2009). Children's patterns of composition and their reflections on their composing processes. *British Educational Research Journal, 35*(1), 47-64. https://doi.org/10.1080/01411920802042978

Myhill, D. A., Jones, S. M., Lines, H., & Watson, A. (2012). Re-thinking grammar: the impact of embedded grammar teaching on students' writing and students' metalinguistic understanding. *Research Papers in Education, 27*(2), 139-166.

Myhill, D., & Jones, S. (2015). Conceptualizing metalinguistic understanding in writing/ Conceptualización de la competencia metalingüística en la escritura. *Cultura y Educación, 27*(4), 839-867.

Myhill, D., & Newman, R. (2016). Metatalk: Enabling metalinguistic discussion about writing. *International Journal of Educational Research, 80*, 177-187. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.ijer.2016.07.007

Myhill, D., & Watson, A. (2014). The Role of Grammar in the Writing Curriculum: A Review of the Literature. *Child Language Teaching and Therapy, 30*(1), 41-62.

Myhill, D., Jones, S., & Lines, H. (2018). Supporting less proficient writers through linguistically aware teaching. *Language and Education*, *32*(4), 333–349. Enfield, N. J., & Sidnell, J. (2017). On the concept of action in the study of interaction. *Discourse Studies*, *19*(5), 515–535. https://doi.org/10.1177/1461445617730235

Myhill, D., Jones, S., & Watson, A. (2013). Grammar matters: How teachers' grammatical knowledge impacts on the teaching of writing. *Teaching and Teacher Education*, 36(2), 77-91.

Myhill, D., Jones, S., & Wilson, A. (2016). Writing conversations: fostering metalinguistic discussion about writing. *Research Papers in Education, 31*(1), 23-44.

Nelson, N. (2001). Writing to learn: One theory, two rationales. In: G. Rijlaarsdam (Series ed.) & P. Tynjälä, L. Mason & K. Lonka (Volume eds.), Studies in Writing, Volume 7, *Writing as a Learning tool: Integrating Theory and Practice*, 23– 36. Kluwer Academic Publishers. Printed in the Netherlands.

Nissi, R. (2015). From entry proposals to a joint statement: Practices of shared text production in multiparty meeting interaction. *Journal of Pragmatics, 79*, 1-21. doi:http://dx.doi.org/10.1016/j.pragma.2015.01.002

Nykopp, M., Marttunen, M., & Laurinen, L. (2014). University Students´ Knowledge Construction during Face to Face Collaborative Writing. In P. Klein, P. Boscolo, L. Kirkpatrick, & C. Gelati (Eds.), *Writing as a Learning Activity* (pp. 277-299). Studies in Writing (28). Leiden : Brill. doi:10.1163/9789004265011_013

O'Donnell, A., Dansereau, D., Rocklin, T., Lambiotte, J., Hythecker, V. & C. Larson (1985). Cooperative writing: direct effects and transfer. *Written Communication*, 2(3), 307–315. https://doi.org/10.1177/0741088385002003005

O'Donnell, A. M., Dansereau, D. F., & Hall, R. H. (2002). Knowledge Maps as Scaffolds for Cognitive Processing. *Educational Psychology Review*, 14(1)

Oers, B. van (2008). Learning and Learning Theory from a Cultural-Historical Point of View. In B. van Oers, W. Wardekker, E. Elbers, & R. Van der Veer (Eds.), *The Transformation of Learning: Advances in Cultural-Historical Activity Theory* (pp. 3-12). Cambridge: Cambridge University Press.

Park, I. (2012). Asking different types of polar questions: The interplay between turn, sequence, and context in writing conferences. *Discourse Studies, 14*(5), 613-633. doi:10.1177/1461445612454077

Parr, J. M., & Wilkinson, I. (2016). Widening the theoretical lens on talk and writing pedagogy. *International Journal of Educational Research, 80*, 217-225. http://dx.doi.org.proxy-ub.rug.nl/10.1016/j.ijer.2016.08.011

Perfetti, C.A. & D. McCutchen (1987). Schooled language competence: linguistic abilities in reading and writing. In S. Rosenberg (Ed.), *Cambridge monographs and texts in applied psycholinguistics. Advances in applied psycholinguistics*, Vol. 1. Disorders of first-language development; Vol. 2. Reading, writing, and language learning, pp. 105–141. Cambridge University Press.

Piaget, J. (1963). *Psychology of intelligence*. Paterson, NJ: Littlefield, Adams & Co.

Plomp, T., & Nieveen, N. (2007). An introduction to educational design research. Paper presented at the *Proceedings of the Seminar Conducted at the East China Normal University, November 23-26, 2007.* Shanghai (PR China).

Pomerantz, A. (1980). Telling my side: "limited access' as a "fishing" device. *Sociological Inquiry*, 50(3-4), 186-198. doi:10.1111/j.1475-682X.1980.tb00020.x

Pomerantz, A. (1984). Giving a source or basis: The practice in conversation of telling 'how I know'. *Journal of Pragmatics, 8*(5), 607-625. doi:10.1016/0378-2166(84)90002-X

Pullens, T. (2012). Bij wijze van schrijven: *Effecten van computerondersteund schrijven in het primair onderwijs*. Proefschrift. Utrecht: Universiteit Utrecht. (Effects of computer-aided writing in primary education)

Pulles, M., Hiddink, F., Herder, A. (2014). Taalontwikkeling door onderzoekend leren binnen thema's. In: *MeerTaal* 1, jrg 2, p. 14-17

Pulles, M., J. Berenst, K. de Glopper & T. Koole (2020). Text selection proposals in dialogic reading in primary school. *Pragmatics and Society* 11(4): 594-618.

Raymond, G. (2003). Grammar and social organization: Yes/no interrogatives and the structure of responding. *American Sociological Review, 68*(6), 939-967.

Rietdijk, S., van Weijen, D., Janssen, T., van den Bergh, H., & Rijlaarsdam, G. (2018). Teaching writing in primary education: Classroom practice, time, teachers' beliefs and skills. Journal of Educational Psychology, 110(5), 640-663.

Ritchie, S., Tomas, L., & Tones, M. (2011). Writing stories to enhance scientific literacy. *International Journal of Science Education, 33*(5), 685-707.

Rivard, L., & Straw, S. B. (2000). The Effect of Talk and Writing on Learning Science: An Exploratory Study. *Science Education, 84*(5), 566-593.

Rogoff, B. (2003). *The cultural nature of human development*. Oxford University Press.

Rojas-Drummond, S. M., Albarrán, C. D., & Littleton, K. S. (2008). Collaboration, creativity and the co-construction of oral and written texts. *Thinking Skills and Creativity, 3*(3), 177-191. doi:http://dx.doi.org/10.1016/j.tsc.2008.09.008

Rojas-Drummond, S. M., Littleton, K., Hernández, F., & Zúñiga, M. (2010). Dialogical interactions among peers in collaborative writing contexts. In K. Littleton, & C. Howe (Eds.), *Educational Dialogues, Understanding and Promoting Productive Interaction*. (pp. 128-148). London: Routledge.

Rojas-Drummond, S., Barrera Olmedo, M.J., Hernández Cruz, I., Vélez Espinosa, M. (2020). Dialogic interactions, co-regulation and the appropriation of text composition abilities in primary school children, *Learning, Culture and Social Interaction*, 24. doi.org/10.1016/j.lcsi.2019.100354

Rojas-Drummond, S., Maine, F., Alarcón, M., Trigo, A. L., Barrera, M. J., Mazón, N., Hofmann, R. (2017). Dialogic literacy: Talking, reading and writing among primary school children. *Learning, Culture and Social Interaction, 12*, 45-62. doi:10.1016/j.lcsi.2016.09.005

Rojas-Drummond, S., Mazón, N., Fernández, M., & Wegerif, R. (2006). Explicit reasoning, creativity and co-construction in primary school children's collaborative activities. *Thinking Skills and Creativity, 1*(2), 84-94. doi:http://dx.doi.org/10.1016/j.tsc.2006.06.001

Sacks, H. (1972). On the analysability of stories by children. In J. J. Gumperz & D. Hymes (Eds.), *Directions in Sociolinguistics: The Ethnography of Communication* (pp. 325–45). New York: Rinehart and Winston.

Sacks, H., Schegloff, E., & Jefferson, G. (1974). A simplest systematics for the organization of turn-taking for conversation. *Language, 50*(4), 696-735.

Saunders, W. M. (1989). Collaborative writing tasks and peer interaction. *International Journal of Educational Research, 13*(1), 101-112. http://dx.doi.org/10.1016/0883-0355(89)90019-0

Scardamalia, M., & Bereiter, C. (1987). Knowledge telling and knowledge transforming in written composition. In S. Rosenberg (Ed.), *Cambridge monographs and texts in applied psycholinguistics. Advances in applied psycholinguistics*, Vol. 1. Disorders of first-language development; Vol. 2. Reading, writing, and language learning, pp. 142–175. Cambridge University Press.

Scardamalia, M., & Bereiter, C. (2003, Fall). Beyond brainstorming: Sustained creative work with ideas. *Education Canada*, 43(4), 4-7, 44.

Scardamalia, M., & Bereiter, C. (2014). Knowledge Building and Knowledge Creation. In R. Sawyer (Ed.), *The Cambridge Handbook of the Learning Sciences* (Cambridge Handbooks in Psychology, pp. 397-417). Cambridge: Cambridge University Press. doi:10.1017/CBO9781139519526.025

Schegloff, E.A. (1992). On talk and its institutional occasions. In Drew, P., & Heritage, J. (1992). *Talk at work : interaction in institutional settings* (Ser. Studies in interactional sociolinguistics, 8), pp 101-134. Cambridge University Press.

Schegloff, E. A. (1996). Confirming allusions: toward an empirical account of action. *American Journal of Sociology*, 102(1), pp.161–216.

Schegloff, E. A. (2007). *Sequence organization in interaction: Volume 1: A primer in conversation analysis*. Cambridge University Press.

Schegloff, E., Jefferson, G., & Sacks, H. (1977). The Preference for Self-Correction in the Organization of Repair in Conversation. Language, 53, 361-382.

Schegloff, E.A., Koshik, I., Jacoby, S., Olsher, D. (2002). Conversation Analysis and Applied Linguistics. *Annual Review of Applied Linguistics, 22*, (pp. 3-31). Cambridge University Press

Schleppegrell, M. J. (2001). Linguistic features of the language of schooling. Linguistics and Education, 12(4), 431–459. https://doi.org/10.1016/S0898-5898(01)00073-0

Searle, J. R. (1975). Indirect Speech Acts. In P. Cole, & J. L. Morgan (Eds.), *Syntax and Semantics, Vol. 3: Speech Act.* (pp. 59-82). New York: Academic Press.

Searle, J. R. (1979). *Expression and Meaning: Studies in the Theory of Speech Acts*. New York: Cambrige University Press.

Seuren, L., Huiskes, M., & Koole, T. (2016). Remembering and understanding with oh-prefaced yes/no declaratives in dutch. *Journal of Pragmatics*, 104: 180-192. doi:10.1016/j.pragma.2016.02.006

Sharples, M. (1996). An Account of Writing as Creative Design. In C.M. Levy & S. Ransdell (Eds.), *The Science of Writing - Theories, Methods, Individual Differences and Applications*, pp. 9-28. Mahwah, NJ: Lawrence Erlbaum Associates.

Sidnell J. (2012). Who knows best? Evidentiality and epistemic asymmetry in conversation. *Pragmatics and Society, 3*(2), 294-320. doi:10.1075/ps.3.2.08sid

Sidnell, J. (2013). Basic conversation analytic methods. In T. Stivers & J. Sidnell (Eds.), *The handbook of conversation analysis* (pp. 77–99). Oxford, UK: Wiley-Blackwell.

Siitonen, P., & Wahlberg, K. (2015). Finnish particles mm, jaa and joo as responses to a proposal in negotiation activity. *Journal of Pragmatics, 75*, 73-88. doi:http://dx.doi.org/10.1016/j.pragma.2014.11.001

Steendam, E. v. (2016). Editorial: Forms of collaboration in writing. *Journal of Writing Research, 8*(2), 183-204. doi:doi: 10.17239/jowr-2016.08.02.01

Stevanovic, M. (2012). Prosodic salience and the emergence of new decisions: On approving responses to proposals in Finnish workplace interaction. *Journal of Pragmatics, 44*(6–7), 843-862. doi:http://dx.doi.org/10.1016/j.pragma.2012.03.007

Stevanovic, M. (2015). Displays of uncertainty and proximal deontic claims: The case of proposal sequences. *Journal of Pragmatics, 78*, 84-97. doi:http://dx.doi.org/10.1016/j.pragma.2014.12.002

Stevanovic, M., & Peräkylä, A. (2012). Deontic authority in interaction: the right to announce, propose, and decide. *Research on Language and Social Interaction*, 45(3), 297–321. https://doi.org/10.1080/08351813.2012.699260

Stevanovic, M., & Peräkylä, A. (2014). Three orders in the organization of human action: on the interface between knowledge, power, and emotion in interaction and social relations. *Language in Society*, 43(2), 185–207.

Stevanovic, M., & Svennevig, J. (2015). Introduction: Epistemics and deontics in conversational directives. *Journal of Pragmatics, 78*, 1-6. doi:http://dx.doi.org/10.1016/j.pragma.2015.01.008

Stivers, T., & Robinson, J. D. (2006). A preference for progressivity in interaction. *Language in Society, 35*, 367-392. doi:10.10170S0047404506060179

Stivers, T., & Sidnell, J. (2016). Proposals for Activity Collaboration. *Research on Language and Social Interaction, 49*(2), 148-166. doi:10.1080/08351813.2016.1164409

Stivers, T., Mondada, L., & Steensig, J. (2011). Knowledge, morality and affiliation in social interaction. In T. Stivers, L. Mondada & J. Steensig (Eds.), *The morality of knowledge in conversation* (pp. 3-24). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511921674.002

Stokoe, E. (2012). Moving forward with membership categorization analysis: methods for systematic analysis. Discourse Studies, 14(3), 277–303.

Storch, N. (2005). Collaborative writing: Product, process, and students' reflections. *Journal of Second Language Writing, 14*(3), 153-173. doi:http://dx.doi.org/10.1016/j.jslw.2005.05.002

Street, B. (2013). Literacy in Theory and Practice: Challenges and Debates Over 50 Years. *Theory Into Practice*, 52:sup1, 52-62, DOI: 10.1080/00405841.2013.795442

Svahn, J., & Bowden, H. (2019). Interactional and epistemic challenges in students' help-seeking in sessions of mathematical homework support: Presenting the problem. *Classroom Discourse*, (2019). doi:10.1080/19463014.2019.1686998

Tang, K. (2017). *Analyzing Teachers' Use of Metadiscourse: The Missing Element in Classroom Discourse Analysis*. Curtin University, Perth: Wiley Periodicals, Inc. DOI 0.1002/sce.21275

Thompson, I., & Wittek, A. L. (2016). Writing as a mediational tool for learning in the collaborative composition of texts. *Learning, Culture and Social Interaction*, 11, 85–96. https://doi.org/10.1016/j.lcsi.2016.05.004

Tynjälä, P., L. Mason & K. Lonka (2001). Writing as a learning tool: An introduction. In: G. Rijlaarsdam (Series ed.) & P. Tynjälä, L. Mason & K. Lonka (Volume eds.), *Studies in Writing*: Volume 7: Writing as a Learning tool: Integrating Theory and Practice, 7 –22 . Kluwer Academic Publishers. Printed in the Netherlands.

Tynjälä, P. (2001). Writing, learning and the development of expertise in higher education. In: G. Rijlaarsdam (Series ed.) & P. Tynjälä, L. Mason & K. Lonka (Volume eds.), *Studies in Writing*, Volume 7, Writing as a Learning tool: Integrating Theory and Practice, 37 – 56. Kluwer Academic Publishers. Printed in the Netherlands.

Van Weijen, D. & Janssen, T. (2018). High-quality writing instruction in Dutch primary education. A framework for national assessment. Contribution to a special issue in honor of Gert Rijlaarsdam. *Making Connections: Studies of Language and Literature Education. L1-Educational Studies in Language and Literature*, 18, 1-41. https://doi.org/10.17239/L1ESLL2018.18.03.03

Vass, E. (2003). *Understanding collaborative creativity: an observational study of the effects of the social and educational context on the processes of young children's joint creative writing*. Dissertation. doi: http://10.13140/RG.2.2.10982.68165

Vass, E. (2004). Understanding collaborative creativity. An observational study of young children's classroom-based joint creative writing. In D. Miell & K. Littleton (Eds.), *Collaborative creativity*. London: Free Association Press.

Vass, E. (2007). Exploring processes of collaborative creativity—the role of emotions in children's joint creative writing. *Thinking Skills and Creativity*, 2(2), 107–117. https://doi.org/10.1016/j.tsc.2007.06.001

Vass, E., Littleton, K., Jones, A., & Miell, D. (2014). The affectively constituted dimensions of creative interthinking. *International Journal of Educational Research*, 66, 63–77. https://doi.org/10.1016/j.ijer.2014.02.004

Vass, E., Littleton, K., Miell, D., & Jones, A. (2008). The discourse of collaborative creative writing: Peer collaboration as a context for mutual inspiration. *Thinking Skills and Creativity, 3*(3), 192-202. http://dx.doi.org/10.1016/j.tsc.2008.09.001

Vine, E. W. (2008). CA and SCT: strange bedfellows or useful partners for understanding classroom interactions? *Discourse Studies, 10*(5), 673-693. *Volume 7: Writing as a Learning tool: Integrating Theory and Practice, 7 –22*.

Vrikki, M, Wheatley, L., Howe, C., Hennessy, S. & N. Mercer (2019). Dialogic practices in primary school classrooms, *Language and Education*, 33:1, 85-100, DOI: 10.1080/09500782.2018.1509988

Vygotsky, L. S. (1962). *Thought and language* (E. Hanfmann & G. Vakar, Trans.). Cambridge, MA: MIT Press.

Vygotsky, L. (1978). Interaction between learning and development . In X. Gauvain, & P. Cole (Eds.), *Readings on the development of children* (pp. 34-40). New York: Scientific American Books.

Vygotsky, L. S. (1986). Thought and language. Cambridge, MA: MIT Press.

Walker, D. (2006). Toward productive design studies. In J. Akker van den, K. Gravemeijer, S. McKenney & N. Nieveen (Eds.), *Educational Design Research* (). New York: Routledge.

Walsweer, A. (2015). *Ruimte voor leren: Een etnografisch onderzoek naar het verloop van een interventie* (dissertation). University of Groningen

Walsweer, A., Gosen, M. N., & Berenst, J. (2012). *Hallo wereld! hello world! hallo wrâld!* Leeuwarden: NHL Hogeschool, Lectoraat Taalgebruik & Leren.

Walsweer, A., Pulles, M., Wessels, S., Groen, T., & Nysingh, A. (2013). *Klaar voor de start. onderzoeksproject rondom het thema sport & spel voor groep 1 t/m 8*. Leeuwarden: NHL, Lectoraat Taalgebruik & Leren.

Wegerif, R. (2005) Reason and Creativity in Classroom Dialogues, Language and Education, 19:3, 223-237, DOI: 10.1080/09500780508668676

Wegerif, R. (2006). Dialogic education: what is it and why do we need it? *Education Review, 19*(2), 58-66.

Wegerif, R. (2011). Towards a dialogic theory of how children learn to think. *Thinking Skills and Creativity, 6*(3), 179-190. doi:http://dx.doi.org/10.1016/j.tsc.2011.08.002

Wegerif, R. (2013). *Dialogic: Education for the internet age.* New York: Routledge.

Wegerif, R., Mercer, N., & Dawes, L. (1999). From social interaction to individual reasoning: An empirical investigation of a possible sociocultural model of cognitive development *Learning and Instruction, 9*, 493-516.

Weinberger, A., & Fischer, F. (2006). A framework to analyze argumentative knowledge construction in computer-supported collaborative learning. *Computers & Education, 46*(1), 71-95. doi:http://dx.doi.org/10.1016/j.compedu.2005.04.003

Wells, G. (2007). Semiotic Mediation, Dialogue and the Construction of Knowledge. *Human Development, 50*(5), 244-274.

White, M.J. and R. Bruning (2005). Implicit writing beliefs and their relation to writing quality. *Contemporary Educational Psychology*, 30 (2005), pp. 166-189, doi:10.1016/j.cedpsych.2004.07.002

Wigglesworth, G., & Storch, N. (2012). What role for collaboration in writing and writing feedback. *Journal of Second Language Writing, 21*(4), 364-374. http://dx.doi.org/10.1016/j.jslw.2012.09.005

Willemsen, A. (2019). *The floor is yours : a conversation analytic study of teachers' conduct facilitating whole-class discussions around texts* (dissertation). University of Groningen.

Wix, L., & John-Steiner, V. (2008). Peer inquiry: discovering what you know through dialogue. *Thinking Skills and Creativity, 3*(3), 217–225. https://doi.org/10.1016/j.tsc.2008.09.002

Yasui, E. (2013). Collaborative idea construction: Repetition of gestures and talk in joint brainstorming. *Journal of Pragmatics, 46*(1), 157-172. doi:http://dx.doi.org/10.1016/j.pragma.2012.10.002

Zhang J., Scardamalia M., Reeve R., & Messina R. (2009). Designs for collective cognitive responsibility in knowledge-building communities. *Journal of the Learning Sciences, 18*(1), 7-44.

Zinken, J., & Ogiermann, E. (2011). How to Propose an Action as Objectively Necessary: The Case of Polish Trzeba x ("One Needs to x"). *Research on Language and Social Interaction, 44*(3), 263-287. doi:10.1080/08351813.2011.591900

Transcription conventions

Transcription conventions

Based on Jefferson (1984) and Ten Have (2007).

[word [word	overlapping speech; point at which an ongoing utterance is joined by another utterance
word= =word	break and subsequent continuation of contiguous utterances
(0.4)	pause (in seconds)
(.)	micro pause (less than 0,2 seconds)
.	stopping fall in tone (not necessarily at the end of a sentence)
,	continuing intonation (not necessarily between clauses of sentences)
?	rising inflection (not necessarily a question)
!	animated tone (not necessarily an exclamation)
_	flat intonation
↓	marked falling shift in intonation
↑	marked rising shift in intonation
£word£	smiley voice or suppressed laughter
◦word◦	talk that is quieter than surrounding talk
WORD	talk that is louder than surrounding talk
word	emphasis
:	extension of the sound that follows (0,2 seconds for every colon)

Practical notes

Due to previous publication in journals, there are a few differences between how the excerpts are presented in the chapters presenting the four studies. In chapter 2 the students are referred to with A, B, etcetera, whereas in the other chapters fictitious names for the students were utilized. Also, in chapter 3 all line numbers start with 1, in contrast to the other chapters in which the line numbers of the original transcripts were used. For this thesis, all excerpts have been brought into line as concerns the fact that the English translations are marked boldly, and nonverbal actions (such as writing) are presented only in English.

Nederlandstalige samenvatting

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Gesprekken van basisschoolleerlingen tijdens gezamenlijk schrijven
Een conversatie-analytisch onderzoek naar interactie in de context van onderzoekend leren

Dit proefschrift doet verslag van een viertal gerelateerde studies naar gesprekken van kinderen uit de midden- en bovenbouw van zes basisscholen in Nederland, die samen schrijven in de context van projecten voor onderzoekend leren. Het onderzoek gaat uit van een sociaal-culturele visie op samen schrijven en leren en van conversatie-analytische inzichten over hoe participanten gesprekken organiseren. De analyse van de gesprekken vond plaats vanuit twee invalshoeken: het gezamenlijk produceren van geschreven tekst en het gezamenlijk construeren van kennis. Met betrekking tot het samen schrijven heb ik eerst geanalyseerd hoe leerlingen voorstellen doen tijdens het samen schrijven en vervolgens hoe leerlingen samen reflecteren op beslissingen die zij als schrijver moeten nemen. Met betrekking tot aspecten van gezamenlijke kennisconstructie heb ik onderzocht hoe kinderen kennis met elkaar delen en hoe zij onderlinge verhoudingen inzake het hebben van kennis expliciet en daarmee relevant maken.

Achtergrond

Vanuit een sociaal-cultureel perspectief op leren (Littleton & Mercer 2010; Mercer, 2004), wordt taal beschouwd als een cultureel en psychologisch instrument (Vygotsky, 1978). Uitganspunt is dat de cognitieve ontwikkeling is ingebed in culturele praktijken, gecreëerd door en gedeeld met leden van gemeenschappen (Bereiter, 2002) en dat deze zodoende niet los staat van de historische en culturele context waarbinnen dat leren plaatsvindt (Rogoff, 2003; Van Oers, 2008). Culturele kennis wordt ontwikkeld door deel te nemen aan activiteiten binnen sociale groepen (Duff, 2002), die gekarakteriseerd kunnen worden als *communities of practice* (Lave & Wenger, 1991). Door deelname aan verbale interactiepraktijken (Berenst, 2012) die bij een specifieke sociaal-culturele gemeenschap behoren, gaat een leerling van perifere naar volledige participatie. Deelname aan dialogische praktijken (Alexander, 2008; Wegerif 2011; Vrikki, et al., 2019) is daarbij zowel middel als resultaat van leren (Freebody, 2003). Samen schrijven kan vanuit deze opvatting getypeerd worden als een gesitueerde geletterdheidspraktijk (Barton & Hamilton,1998; Cekaite, 2009; Graham, 2018), waarin interactie en schrijven nauw met elkaar verweven zijn in dialogische schrijfactiviteiten (Rojas-Drummond et al., 2020).

Eerder onderzoek naar samen schrijven is uitgevoerd vanuit twee centrale theoretische benaderingswijzen (Van Steendam, 2016): de schrijfvaardigheidsontwikkeling van de deelnemers en de vraag hoe samen schrijven het leren van inhouden (betreffende het onderwerp van de tekst) kan stimuleren. Deze twee perspectieven geven richting

aan onderzoek naar hoe individuele schrijvers teksten construeren en hoe schrijven processen kan oproepen waarin kennis wordt gegenereerd of getransformeerd. Studies naar cognitieve, individuele schrijfprocessen hebben aangetoond hoe schrijvers teksten produceren in korte recursieve cycli (Bereiter & Scardamalia, 1980), hoe de ontwikkeling van een beginner tot een meer bekwame schrijver verloopt (Flower & Hayes, 1987) en hoe schrijven kan leiden tot ontwikkeling in het begrip van de schrijvers (Baaijen & Galbraith, 2018; Galbraith 1999, 2009). Uitgaande van deze invalshoeken en kennis over hoe schrijfprocessen verlopen, zijn er in de afgelopen drie decennia verschillende studies uitgevoerd die hebben laten zien hoe schrijven (in kleine groepen of tweetallen) bevorderlijk kan zijn voor het ontwikkelen van de schrijfvaardigheid en voor het leren van (vak)inhouden (Graham et al., 2020; Klein & Boscolo 2016; Van Steendam, 2016).

Onderzoek naar samen schrijven heeft onder meer aangetoond dat de deelnemers kunnen leren van elkaars schrijfprocessen, dat kritische reflectie door samenwerken wordt aangemoedigd en dat onder bepaalde condities de tekstkwaliteit verbetert wanneer studenten gericht samenwerken (Arvaja et al., 2000; Donahue & Lillis, 2014; Nykopp, et al., 2014; Van Steendam, 2016; Hoogeveen & Van Gelderen, 2018). Met name ook vanuit onderzoek naar het leren van een tweede taal bleek dat samen schrijven gunstig is voor de ontwikkeling van schrijfvaardigheid in de doeltaal (Fernández Dobao 2012; Guttiérrez, 2016).

Vanuit het perspectief van samen schrijven-om-te-leren is onder meer aangetoond hoe samen schrijven kan leiden tot vormen van collectieve creativiteit (Rojas-Drummond, et al., 2008) en het voortbouwen op elkaars ideeën (Klein, 2014; Tynjälä, 2001; Vass et al., 2008). Het vermogen om samen te praten en te denken blijkt ook een belangrijke factor in het gezamenlijk produceren van een coherente samenvatting (Rojas-Drummond, et al., 2017). Recent onderzoek van Rojas-Drummond, et al. (2020) bevestigt de sleutelrol van dialogische gesprekken en co-reguleringsprocessen in gezamenlijke schrijftaken met medeleerlingen. Met name schrijfactiviteiten die betekenisvol en interactief zijn en een beroep doen op metacognitieve vaardigheden blijken leerprocessen te bevorderen (Gere et al., 2019).

Het hier beschreven onderzoek bouwt voort op de eerdere studies over samen schrijven en leren, met gebruik van (toegepaste) conversatie analyse (Antaki, 2011; Ten Have, 2007) als analysemethode. Het gedetailleerd analyseren van de gesprekken van samen schrijvende leerlingen die werken aan hun eigen onderzoeksproject, heeft meer inzicht gegeven in hoe studenten in interactie met elkaar een schrijfproduct creëren binnen die gegeven context en hoe aspecten van gezamenlijke kennisopbouw tot uiting komen in de interactie.

Context en data

De videodata voor het onderzoek zijn in de periode 2012-2015 verzameld in het kader van het Raak PRO-project *Samenwerken en Taalvaardigheid* (Berenst, 2011),

uitgevoerd door het Lectoraat Taalgebruik en Leren van NHL Stenden Hogeschool. In dit onderzoeksproject, dat was georganiseerd volgens de principes van *Educational Design Research* (Collins, et al., 2004), implementeerden leerkrachten van zeven basisscholen in Friesland projecten voor onderzoekend leren (Bereiter 2002; Littleton & Kerawalla, 2012). Het belangrijkste doel was om voorwaarden te scheppen die de kwaliteit van interactie tussen leerlingen zouden verbeteren met het oog op gezamenlijke kennisopbouw en taalvaardigheid, waaronder schrijfvaardigheid. Na een pilot met één school is het hoofdproject uitgevoerd op zes basisscholen, waar de data voor mijn onderzoek gedurende twee jaar werden verzameld in gemengde groepen 4-8.

De leerlingen werkten twee keer per jaar gedurende periodes van ongeveer drie weken in groepjes aan hun eigen onderzoek, waarin het stapsgewijs werken vanuit eigen vragen uitgangspunt was. Overkoepelende thema's waren: Kleding, Friesland toen en nu, Feesten, Sport en spel en Machines en apparaten. Binnen de context van hun eigen kleinschalige onderzoek voerden de leerlingen diverse schrijfactiviteiten uit, wat in de volgende soorten teksten resulteerde: plan van aanpak (onderzoeksvragen), reflectie (logboek), mindmap, lijst met interviewvragen, brief, aantekeningen, verhaal, verslag, poster en PowerPointpresentatie. Van die schrijfactiviteiten werden video-opnamen gemaakt. De dataset voor mijn onderzoek bevatte opnamen van 33 schrijfsessies, waarvan 26 met pen en papier en 7 met gebruik van een computer. De totale tijd van deze opnamen is 7 uur en 34 minuten; de gemiddelde duur van een schrijfactiviteit was 10 minuten en 39 seconden.

Methode

De analysemethode voor dit onderzoek is (toegepaste) conversatieanalyse (Antaki, 2011; Mazeland, 2003; Ten Have, 2007). Conversatieanalyse (vanaf nu CA) is een kwalitatieve onderzoeksmethode en kan worden omschreven als een micro-analyse van de manieren waarop deelnemers hun interactie organiseren en sociale acties tot stand worden gebracht. Gesprekken worden daarbij niet benaderd vanuit een set (theoretisch gemotiveerde) aannames, maar op inductieve wijze. Het basisprincipe van CA is dat de betekenis van een uiting wordt bepaald door de daarop volgende uiting. De onderzoeker analyseert data dus vanuit dat deelnemersperspectief en gaat na wat participanten voor elkaar waarneembaar maken (Gosen & Koole, 2017). Ook *leren* bestuderen CA-onderzoekers als een sociaal en interactief fenomeen (Gardner, 2019; Koole 2010; Margutti, 2006).

Om mijn onderzoeksvragen te beantwoorden, heb ik vier collectiestudies (Clift & Raymond, 2018) uitgevoerd. Eerst werden alle videodata getranscribeerd (Jefferson, 1984; 2004) en voor elke deelstudie werden de te onderzoeken fenomenen (Sidnell, 2013) bepaald op basis van verkennende analyses. Vervolgens creëerde ik collecties (Clift & Raymond, 2018) van praktijken met alle voorkomende gevallen van het doelfenomeen. In

dit proefschrift verwijst de notie *praktijk* naar de verbale, vocale en non-verbale manieren die een actie vormen en uitvoeren en *acties* zijn wat deelnemers doen in interactie (bijvoorbeeld voorstellen, uitnodigen, corrigeren). De collecties vormden het vertrekpunt voor een meer gedetailleerde analyse, bijvoorbeeld voor wat betreft acties (Sidnell, 2013), sequentiële posities (Schegloff, 2007), taalkundige constructies (Couper-Kuhlen, 2014) of de wijze waarop acties worden begrepen door andere participanten getuige hun reacties en het vervolg van de interactie (Enfield & Sidnell, 2017).

Resultaten

Van elke deelstudie volgt hieronder een beknopte samenvatting. Onderwerpen zijn: de aard en functie van voorstellen, reflectieve praktijken, het delen van kennis en uitingen met gebruik van het epistemische werkwoord 'weten'.

Aard en functie van voorstellen

Het doel van de eerste studie voor dit proefschrift (hoofdstuk 2) is om de aard en functie van voorstellen (*proposals*; Houtkoop-Steenstra, 1987) vast te stellen, die leerlingen doen tijdens het gezamenlijk schrijven. Het samen creëren van één schrijfproduct vereist dat deelnemers gedeelde beslissingen nemen en onderhandelingen hierover beginnen doorgaans met een voorstel: een initiërende actie waarbij de spreker probeert een toekomstige actie, gebeurtenis of situatie te bewerkstelligen (Houtkoop-Steenstra, 1987; Couper-Kuhlen 2014). Een ontvanger kan het voorstel accepteren of weigeren, of om opheldering vragen (Couper-Kuhlen & Etelämäki 2015; Siitonen & Wahlberg 2015; Stevanovic & Peräkylä, 2012; Yasui, 2013), wat gevolgen heeft voor het vervolg van het gesprek. De onderzoeksvraag was: hoe doen leerlingen voorstellen en hoe behandelen ze voorstellen tijdens de gezamenlijke productie van één geschreven tekst?

De analyses hebben drie centrale bevindingen opgeleverd. Ten eerste werden vijf hoofddoelen van voorstellen geïdentificeerd: (i) inhoud van de tekst, (ii) procedure (taakuitvoering), (iii) formulering, (iv) tekststructuur en (v) lay-out. De mate waarin de verschillende soorten voorstellen een rol speelden bij het samen schrijven, hing samen met de aard van het beoogde schrijfproduct. Ten tweede heeft de studie laten zien dat procedurele voorstellen en voorstellen voor de inhoud van de tekst syntactisch anders geconstrueerd worden. Procedurele voorstellen zijn declaratieve uitingen, vaak vergezeld van het modale werkwoord *moeten* dat een noodzaak of verplichting uitdrukt. Bij voorstellen voor de inhoud van de tekst kon een onderscheid worden gemaakt tussen twee contexten: ideeën genereren vanuit persoonlijke kennis en ervaringen en met gebruik van een brontekst (waarbij het gebruik van een pc bovendien multimodaal (Gardner & Levy, 2010) geconstrueerde voorstellen zichtbaar maakte). De derde centrale uitkomst was dat het opschrijven van nieuwe tekst in verschillende sequentiële posities (Schegloff, 2007) plaatsvond, met twee hoofdpatronen: (i) als een geprefereerd tweede

paardeel (SPP) waarmee de acceptatie van een voorstel non-verbaal tot uitdrukking werd gebracht en (ii) nadat de participanten verbaal overeenstemming bereikt hadden over zowel de inhoud als de formulering, waarbij het opschrijven fungeerde als een *sequence closing third* (Schegloff, 2007).

Het analyseren van voorstelsequenties heeft bijgedragen aan het begrip van hoe procedurele en inhoudelijke voorstellen een rol spelen in gezamenlijke schrijfactiviteiten. De studie liet zien hoe het genereren van inhouden en formulering met elkaar verbonden zijn (Flower & Hayes, 1980; Vass, 2007) en valideerde eerder onderzoek dat toonde hoe schrijven functioneert als non-verbale actie om een voorstel te accepteren (Nissi, 2015). Het gezamenlijke schrijven kon worden getypeerd als *creative interthinking* (Mercer, 2004; Vass, et al., 2008; Mercer en Littleton, 2013), waarbij leerlingen in interactie voorstellen doen en besluiten nemen over de aanpak en het beoogde schrijfproduct, vanuit een gemeenschappelijke oriëntatie op een organisatorische agenda (Boden, 1994).

Reflecteren op gepastheid en correctheid

Samen schrijven kan bevorderen dat participanten leren van elkaars schrijfprocessen en conceptuele kennis en kan bovendien kritische reflectie over de keuzes van schrijvers bevorderen (Klein 2014; Nykopp et al, 2014; Van Steendam 2016). Schrijven brengt metalinguïstische activiteit met zich mee omdat het besluitvorming over taal en communicatie van betekenis vereist (Bereiter en Scardamalia, 1987; Chen & Myhill, 2016; Myhill & Jones, 2015), wat impliceert dat metatalk (Parr en Wilkinson 2016) over schrijven belangrijk is. Eerdere studies naar de interactie tussen leerkrachten en leerlingen hebben aangetoond dat gesprekken gunstig zijn voor het ontwikkelen van schrijfvaardigheid (Dolz en Erhard 2000; D'warte 2012; Jesson et al., 2016; Myhill et al., 2012). Er is echter weinig onderzoek gedaan naar hoe reflectieve praktijken zich voordoen in de interactie van samenwerkende schrijvende leerlingen. De studie die is beschreven in hoofdstuk 3 beantwoordt de volgende vraag: hoe komen tijdens de gezamenlijke schrijfactiviteiten reflectieve praktijken met betrekking tot zowel tekstinhoud als talige kwesties tot stand?

Uit de analyses is gebleken dat de leerlingen reflecteerden op twee hoofdaspecten. Ten eerste reflecteren leerlingen op gepastheid (*appropriateness*) van voorstellen van medeleerlingen tijdens het genereren van nieuwe ideeën, met verschillende interactionele praktijken in responsieve posities. Het reflecteren op gepastheid of geschiktheid van voorstellen betrof inhoudelijk drie aspecten: de hoeveelheid informatie die al is gegeven (redundantie), de relevantie van een idee voor het onderwerp of juist voor het onderzoeksproces en de geschiktheid van woordkeuze of stijl (schrijfconventies). Ten tweede reflecteren leerlingen op correctheid (*correctness*) van schriftelijk taalgebruik, in termen van (hoofdzakelijk) spelling, interpunctie en grammatica, wat tot uiting komt in conversationele acties tijdens en na het opschrijven van nieuwe inhouden. Er werden drie typen acties onderscheiden: een expliciete hulpvraag (*recruitment*; Kendrick &

Drew, 2016) door de schrijver, een (ongevraagde) instructie door een niet-schrijvende medeleerling om een mogelijke taalfout te voorkomen (Kääntä 2010; Dalton-Puffer 2007) en een correctie (Jefferson, 1987; Macbeth 2004; Schegloff et al., 1977) door een niet-schrijvende student.

De studie laat zien hoe leerlingen reflecteren op de beslissingen die ze als schrijvers moeten nemen en suggereert zodoende dat samen schrijven (tijdens onderzoekend leren) een vruchtbare context biedt om de schrijfvaardigheidsontwikkeling van basisschoolleerlingen te bevorderen. In de discussie werd aangevoerd dat de van nature voorkomende metalinguïstische uitingen een startpunt kunnen zijn om basisschoolkinderen explicieter te oriënteren op bijvoorbeeld verbanden tussen grammatica en schrijven (Myhill & Newman, 2016) of verschillende genres (Hyland, 2007 ; Heuboeck, 2009; Martin 2009).

Kennis delen met groepsgenoten

De derde deelstudie (hoofdstuk 4) richt zich op een aspect van samenwerken door basisschoolleerlingen dat tot nu toe onderbelicht was, namelijk de basale actie van het met elkaar delen van kennis. Een dialogische visie op leren (Alexander, 2018; Kim & Wilkinson, 2019; Vrikki, et al., 2019; Wegerif, 2008) gaat er van uit dat kennis van deelnemers binnen trajecten van gezamenlijk redeneren (Littleton & Mercer 2010; Mercer, 2004; Mercer & Howe , 2012) geen stabiele reeds bestaande toestand is, maar van moment tot moment verandert (Keevallik, 2011). De hoofdvraag was: welke sequentiële contexten (Schegloff, 2007) maken het relevant voor een leerling om zijn kennis te delen met groepsgenoten?

De kennisuitingen (*epistemic displays*) werden gedefinieerd als beweringen waarmee een deelnemer in interactie expliciet kennis van de wereld (*world knowledge*; Bereiter, 2002) demonstreert (Koole, 2010). De analyse liet zien dat er vijf manieren zijn waarop kennisuitingen werden geproduceerd, namelijk als (i) *accounts* (het geven van rekenschap), (ii) responses op een verzoek om informatie, (iii) correcties (*other-corrections,* Jefferson, 1987) en in reactie op de propositionele inhoud (Enfield, 2011) van een voorafgaande kennisuiting of informatie in een tekstuele bron als (iv) afwijzingen (*disagreement*) en (v) uitbreidingen (*extension*; Klein, 2014; Vass, 2008). Kennisuitingen die werden gedaan in *accounts* hadden vier toepassingen, namelijk als verantwoording voor een eigen voorstel, voor instemming of juist afwijzing van een voorstel van een medeleerling, of voor het corrigeren van een medeleerling. De manier waarop kennisuitingen gedaan werden, bleek tot op zekere hoogte samen te hangen met de aard van de schrijfactiviteiten. Ook bleek er sprake te zijn van een specifiek participatiekader (Goodwin & Goodwin, 2004) in schrijfactiviteiten waarin een leerling een rol als facilitator (Nissi, 2015) op zich nam en medeleerlingen uitnodigde hun kennis te delen.

De bespreking van de bevindingen heeft voornamelijk betrekking op de belangrijkste functies (Enfield, 2011) van kennisuitingen, in termen van een rechtvaardigende (*justifying*)

functie van de accounts en afwijzingen en een verhelderende (*clarifying*) functie van de reacties op verzoeken om informatie, correcties en uitbreidingen. Ook is besproken dat de inhoud van de uitingen een variatie aan kennis van de wereld (inclusief typisch schoolse kennis; Hedegaard, 2008), taalkennis en kennis uit het alledaagse leven betrof (Houen et al., 2017).

Gespreksfuncties van uitingen met 'weten'

De vierde studie voor dit proefschrift (hoofdstuk 5) richt zich op de functie van uitingen met 'ik weet', 'jij weet' en 'wij weten' en was bedoeld om een beter begrip te krijgen van hoe leerlingen 'weten' expliciet en daarmee relevant maken in hun gesprekken. Het hebben en delen van kennis in interactie heeft morele dimensies die te maken hebben met rechten en verantwoordelijkheden (Stivers et al., 2011). Gesprekspartners verwachten onderling dat uitingen worden afgestemd op wat de ander wel of niet weet (Laury & Helasvuo, 2016). CA-studies naar het gebruik van 'ik weet' en 'jij weet' in gesprekken tussen volwassenen hebben de gespreksfuncties van deze uitingen laten zien en hoe dergelijke uitingen appelleren aan de kennis en (emotionele) betrokkenheid van de participanten (Asmuß, 2011; Heritage, 2012a,b; Heritage & Sefi, 1992; Keevallik, 2003; MacMartin, et al., 2014; Mikesell, et al., 2017; Keevallik, 2003). De belangrijkste vraag voor dit onderzoek was: wat is in de context van de gezamenlijke schrijfactiviteiten de gespreksfunctie van uitingen met 'ik weet', 'jij weet' en 'wij weten'?

De analyse van uitingen met het epistemische werkwoord 'weten' in combinatie met de persoonlijke voornaamwoorden *ik*, *jij* of *wij*, laat verschillende praktijken zien, die inzicht geven in de epistemische verhoudingen tussen de gespreksdeelnemers. Er zijn drie hoofdcategorieën onderscheiden. Ten eerste positioneren leerlingen zichzelf als 'wetend'/ deskundig, door het hebben van (gedeeltelijke) kennis te claimen of door epistemische autoriteit (*epistemic authority*; Heritage & Raymond, 2005; Heritage, 2012a) op te eisen, al dan niet vergezeld van bewijzen (*evidentials*, Enfield, 2011). Ten tweede claimen leerlingen het hebben van dezelfde kennis als een ander, waarmee ze de nieuwswaarde van een voorgaande uiting van die ander ontkenden (Mikesell, et al., 2017) en in sommige gevallen belang leken te hechten aan voorkomen van 'gezichtsverlies' (*maintaining face*, Goffman, 1967). Ten derde wijzen leerlingen hun groepsgenoten expliciet op het hebben van gedeelde kennis om overeenstemming af te dwingen, een vooronderstelling van gedeelde kennis aan te duiden, een voorstel af te wijzen (op basis van relevantie), of gedeelde nieuwe kennis vast te stellen.

Deze studie heeft bijgedragen aan CA-onderzoek naar de rol van kennis in interactie (Heritage & Raymond 2005; Stivers et al., 2011) door data van relatief jonge gesprekspartners te analyseren en door een geïntegreerde analyse uit te voeren van 'ik weet', 'jij weet' en 'wij weten'. De gespreksfuncties van uitspraken met 'weten' laten

zien hoe dialogische praktijken (Kim en Wilkinson, 2019; Vrikki, et al., 2019) gerealiseerd en daarmee zichtbaar worden in een *community of practice* (Lave & Wenger, 1991).

Discussie

Methodologische bespreking

De resultaten van de vier deelstudies hebben laten zien hoe samen schrijven in de context van projecten voor onderzoekend leren een verscheidenheid aan gesprekspraktijken genereert, waarin schrijven, denken en weten onderling verbonden zijn en vorm krijgen in het verloop van de interactie. Wat betreft de aard van de data is het van belang op te merken dat CA zich primair bezighoudt met de analyse van natuurlijk voorkomende gesprekken en dat de aanwezigheid van onderzoekers en camera's de gesprekken mogelijk heeft beïnvloed (Lester & O'Reilly, 2019). Op basis van de observaties kon echter vastgesteld worden dat dit in het hier beschreven onderzoek geen noemenswaardige rol leek te spelen.

Verder hebben de analyses van de vier studies laten zien welke specifieke toegevoegde waarde CA heeft in het analyseren van groepsgesprekken van leerlingen. Door zeer gedetailleerd te bestuderen wat leerlingen doen in interactie en uit te gaan van wat zij daarin zelf relevant en zichtbaar maken, was het mogelijk om meer inzicht te krijgen in hoe leerlingen gezamenlijk een schrijfproduct tot stand brengen en hoe zij kennis met elkaar delen en bespreken.

Theoretische discussie

Het hier beschreven onderzoek bouwt voort op literatuur over samen schrijven en dialogische interactie, vanuit een sociaal-cultureel perspectief op leren en geïnspireerd door conversatie-analytische studies over het organiseren van gesprekken en de rol van kennis in interactie. Vijf onderwerpen zijn van belang om nader op in te gaan.

Verschillende observaties in het onderzoek suggereren een oriëntatie van leerlingen op veronderstelde eisen aan het beoogde schrijfproduct en aannames over wat van belang is om aandacht aan te schenken (Hasan, 2012; Wells, 2007). Dit betreft onder meer de constructie en behandeling van procedurele voorstellen, een gerichtheid op kwantitatieve aspecten van het schrijfproduct en in sommige sequentiële contexten de aanwezigheid van typische leerkrachtpraktijken. Het relevant maken van bepaalde sociaalculturele kennis (Stevanovic and Peräkylä, 2014) door de participanten lijkt de gesitueerdheid van het schrijven in de institutionele, schoolse context (Drew & Heritage, 1992; Heritage, 2004) aan het licht te brengen.

Een deel van de reflectieve uitingen van leerlingen had betrekking op aspecten van het register van een specifiek genre (Hyland, 2005; Heuboeck, 2009; Martin, 2009). Dit

maakt zichtbaar hoe verbindingen tussen disciplines (Nelson, 2001) tot stand komen en ook dat specifieke taalkundige en retorische kennis van de kinderen verankerd lijkt te zijn in sociale geletterdheidspraktijken (Graham, 2018). Verder is gebleken dat reflectieve praktijken met betrekking tot de linguïstische aspecten van schrijfproducten hoofdzakelijk gericht zijn op de lagere-orde aspecten van schrijven, wat wijst op strategieën van beginnende schrijvers (Bereiter & Scardamalia, 1987).

De analyses van de sequentiële posities waarin leerlingen kennisuitingen produceren geven een nauwkeuriger begrip van hoe leerlingen voortbouwen op elkaars ideeën (Klein, 2014; Vass, 2014), hoe zij in interactie tot gezamenlijk redeneren komen (Littteton & Mercer, 2010; Mercer, 2004; Rojas-Drummond et al., 2020) en ook bij welk type schrijfactiviteiten dat vooral plaatsvindt. De verschillende studies hebben ook meer inzicht gegeven in de aard van de kennis die de leerlingen delen, te weten procedurele kennis, linguïstische kennis en kennis van de wereld. Deze kennis is afkomstig van ervaringen binnen en buiten de schoolse context (Hedegaard, 2008; Houen et al., 2017). Alleen kennis van de wereld wordt ter discussie gesteld door de leerlingen.

Het bestuderen van uitingen met *ik weet*, *jij weet* en *wij weten* heeft inzicht gegeven in hoe cognitieve processen zich manifesteren in interactie en hoe leerlingen zich verhouden tot *weten* (het hebben van kennis) van zichzelf en anderen. Het onderzoek heeft een bijdrage geleverd aan CA-literatuur over de rol van kennis in gesprekken (Heritage 2012a,b; Heritage, 2013; Steensig et al., 2011), door een verbreding naar gesprekken van relatief jonge gespreksdeelnemers. De uitkomsten met betrekking tot het responsieve *ik weet* en *jij weet* bevestigen de uitkomsten van eerdere studies naar de functie van deze uitingen (Asmuβ, 2011; Mikesell et al., 2017) en breiden deze ook uit. Uitingen met *ik weet* die begrepen kunnen worden in termen van *gezichtsbehoud* (zie *face*, Goffman, 1967), laten zien dat niet alleen epistemische en deontische (Stevanovic and Peräkylä, 2012) aspecten van de sociale verhoudingen een rol spelen, maar ook emotionele dimensies (Stevanovic and Peräkylä, 2014).

De analyses hebben tot slot ook bijgedragen aan kennis over schrijfvaardigheid en gespreksvaardigheden (pragmatische competenties) van leerlingen in de midden- en bovenbouw van het basisonderwijs. Het nemen van gezamenlijke, beredeneerde besluiten met betrekking tot de inhoud en formulering (voor teksten met een lezerspubliek) wijst op verfijnde schrijfstrategieën (Bereiter & Scardamalia, 1987). Daarnaast is gebleken dat leerlingen in staat zijn een grote variëteit aan pragmatische handelingen te begrijpen en zelf te produceren.

Implicaties voor de onderwijspraktijk en verder onderzoek

Het onderzoek geeft aanknopingspunten voor het doen van vervolgonderzoek en tot op zekere hoogte voor de wijze waarop samen schrijven (in de context van onderzoekend leren) geoptimaliseerd kan worden.

Een eerste suggestie voor verder onderzoek is om na te gaan hoe reflectieve praktijken zich voordoen in gezamenlijke schrijfactiviteiten met gebruik van een tekstverwerker. De analyses van het gezamenlijk reflecteren hebben zich nu beperkt tot data van leerlingen die met pen en papier schreven en een interessante vervolgvraag is hoe leerlingen reflecteren op aspecten van gepastheid en correctheid in die contexten, waarbij technologie (bijvoorbeeld spellinghulp; zie Cekaite, 2009) een nadrukkelijke rol speelt in de sociale geletterdheidspraktijken (Street, 2013).

Ten tweede zou in vervolgonderzoek aandacht besteed kunnen worden aan hoe de schrijf- en gespreksvaardigheden van leerlingen zich ontwikkelen. Dit vraagt om een andere wijze van dataverzameling (Gardner, 2019), waarbij opeenvolgende momenten van gerelateerde schrijfactiviteiten worden gefilmd. De nauwgezette observaties kunnen vervolgens een rol spelen bij werk aan optimalisering van de onderwijspraktijk.

Het onderzoek heeft laten zien hoe leerlingen kennis uiten en bespreken en van daaruit is een derde vraag hoe studie gemaakt kan worden van de wijze waarop de propositionele inhoud van ideeën verandert in relatie tot patronen in de interactie. Mogelijk biedt de CA benadering van *membership categorisation analysis* (zie Fitzgerald, & Housley, 2015; Stokoe, 2012) hiervoor mogelijkheden, maar de vraag is in hoeverre daarbij het deelnemersperspectief uitgangspunt van de analyse kan zijn, zoals te doen gebruikelijk in CA onderzoek.

Tot slot suggereren de uitkomsten van dit onderzoek dat het belangrijk is om meer inzicht te krijgen in de rol van affectieve aspecten en daarmee samenhangend creativiteit (Fernández-Cárdenas, 2008; Sharples 1996) als dimensies van hoe leerlingen gezamenlijk een schrijfproduct tot stand brengen in interactie (Vass et al. 2014; Wegerif, 2005).

Dankwoord

Dankwoord

Het kunnen doen van promotieonderzoek heb ik als een enorm voorrecht ervaren. Ik ben trots op het eindresultaat en me er tegelijk van bewust dat dat er niet zou zijn geweest, zonder de betrokkenheid van diverse mensen op allerlei manieren. In dit dankwoord wil ik daar graag bij stil staan, te beginnen met mijn twee promotores en copromotor, die mij elk op hun eigen manier wisten bij te sturen, uit te dagen, te bemoedigen en telkens weer een stapje verder te krijgen.

Beste Kees, al in 2003, toen we allebei bij het Expertisecentrum taal, onderwijs en communicatie (Etoc) werkten, spraken we over plannen voor een promotieonderzoek naar 'schrijven en leren'. Het lukte destijds niet om daarvoor de benodigde subsidie te genereren, maar zie hier: zo'n zeventien jaar later is het toch gelukt een promotieonderzoek af te ronden dat grotendeels aan diezelfde thematiek raakt, met jou als één van mijn promotores. Ik ben blij dat je jouw diepgaande kennis op het terrein van schrijfvaardigheid en methodologische inzichten hebt ingezet als begeleider voor mijn onderzoek, waarin je me door vragen te stellen bij mijn ideeën en concepten telkens uitnodigde om tot een nauwkeuriger formulering en daarmee grondiger begrip te komen. Dank voor je altijd plezierige manier van meedenken, richting geven en communiceren. Tot mijn genoegen werd jouw begeleiding vaak op allerlei manieren vergezeld van verwijzingen naar muziek en ook stuurde je zo nu en dan zomaar een appje met een link naar Spotify, omdat je vermoedde dat ik die muziek ook mooi zou vinden. De titel van één van die prachtige nummers is wat mij betreft van toepassing op het naderende eindpunt van dit promotietraject: *Nothing Really Ends* van dEUs. Ik hoop dat ook deze mijlpaal in de vorm van een dissertatie uiteindelijk geen echt einde zal blijken te zijn aan ons contact en onze gedeelde passie voor schrijven en schrijfvaardigheid.

Beste Tom, je hebt in één van de besprekingen eens in meer algemene zin aangegeven dat een promotietraject weliswaar leidt tot een -voor dat moment- afgerond onderzoek en een dissertatie, maar dat het in wezen gaat om de vorming van een promovendus tot onderzoeker. Dit is ook inderdaad hoe ik jouw manier van begeleiden heb ervaren, met kritische opmerkingen bij mijn analyses, kernachtige feedback op tussenproducten, een enkele suggestie en vooral veel prikkelende vragen en uitnodigingen om beter uit te leggen waarom ik bepaalde keuzes maakte. En ook al karakteriseerde je het feedback geven op mijn (concept)teksten regelmatig als "huiswerk van Anke", je reacties waren altijd op tijd en constructief. Dank voor je prettige en vormende wijze van begeleiden. Overigens heb ik me wel eens afgevraagd wat de invloed van die bonte verzameling figuurtjes op jouw overlegtafel is geweest op mijn vaardigheid in het opzetten van een collectiestudie. Wellicht dat dat vreemde groepje toch onbewust heeft bijgedragen aan

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Beste Jan, als dagelijks begeleider van mijn promotieonderzoek ben je intensief betrokken geweest bij de jaren waarin ik aan mijn onderzoek werkte. Voor mij persoonlijk betekent het verschijnen van dit proefschrift dan ook een prachtige afronding van een veel langere periode waarin ik onder jouw hoede aan het werken en leren was. Ongeveer vijfentwintig jaar geleden zat ik als studente bij jou in de collegebanken, waar ik binnen de studie Taalbeheersing aan de Groningse Letterenfaculteit voor de specialisatie 'Taalvaardigheidsontwikkeling in het onderwijs' had gekozen. Een prachtige verdieping die nog steeds aan de basis ligt van alles wat ik daarna ben gaan doen. En wat dat vervolg betreft, ben jij daarna eigenlijk steeds betrokken geweest bij de sleutelmomenten in mijn loopbaan. Tijdens mijn promotietraject kon ik op elk moment terecht met vragen, kwesties en ideeën en je was altijd enthousiast over de data en de bevindingen. Je begeleiding kenmerkte zich verder door veel geduld, een enorme bevlogenheid en je gedetailleerde en omvangrijke kennis. Als studente viel me al op hoe jij altijd in één beweging precies een bepaald artikel uit één van de vele stapels papieren in je werkkamer wist te trekken en dit beeld is in zekere zin onveranderd gebleven. Steeds weer wist je me in gesprekken op precies het juiste moment te voorzien van de benodigde input in de vorm van allerhande suggesties, citaten en verwijzingen. Mede dankzij jouw toegewijde begeleiding is het proefschrift nu af en daarmee sluiten we een lange tijd van 'samen onderzoeken' en 'schrijven om te leren' af. Dank dat je zoveel jaren mijn mentor was.

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Mijn onderzoek bracht me ook naar enkele congressen in binnen- en buitenland en daar heb ik niet alleen heel veel van geleerd, maar vooral ook geweldig gezellige tijden gehad. Dit varieerde van een avondwandeling door Helsinki, lunchen met sushi in een parkje in München, voetbalwedstrijden kijken van het Nederlands elftal (m/v), tot natuurlijk de onvergetelijke *silent disco* en karaoke in Loughborough. Dank aan de hierboven genoemde Groningse CA'ers met wie ik verschillende congressen bezocht en dank ook aan collega's van andere universiteiten die ik in die context ontmoette en ook bijdroegen aan een onvergetelijke onderzoekstijd: *Alyanne, Ellen, Hedwig, Lotte, Marije, Roel* en *Wyke*.

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delen wij regelmatig ons gebrek aan parate kennis en bespreken we allerlei klepels waarvan de klokken uiteindelijk onvindbaar blijken. Ook hebben we recentelijk moeten erkennen dat alles uit het genre 'cultuur met de hoofdletter C' eigenlijk niet aan ons besteed is. Ondanks dat is het mij nu wel gelukt om dit proefschrift te produceren en ik kan niet wachten totdat jij je proefschrift af hebt en gaat verdedigen – misschien kunnen we daarna als doctors toch ook weer proberen cultureel een niveautje hoger te gaan. Lieve *Esther*, al vanaf onze eerste ontmoeting dertig jaar geleden delen we in onze vriendschap lief en leef en hebben we aan een half woord of minder genoeg om elkaar te begrijpen. Veel dank voor je openheid en vertrouwen, je inzichten, bespiegelingen en aansporingen. Wat we ook al jaren met elkaar delen, zijn onze alledaagse taalobservaties en ik realiseerde me bij het schrijven van dit stukje dat we nog even samen gestudeerd hebben. En terwijl jij Algemene Taalwetenschappen deed en ik bij Taalbeheersing rondliep, hebben we bovendien bij de Letterenfaculteit onze allereerste stappen op het internet gezet. Eenmaal op dat wereldwijde web konden we wat korte nieuwsberichten lezen en dat vonden we nou niet zo revolutionair als ons was voorgespiegeld, aangezien je net zo goed de radio aan kon zetten of een krant kon gaan kopen. We zagen het nut van dat hele internet niet in. Gelukkig zijn we toch met onze tijd meegegaan, wat er onder andere voor heeft gezorgd dat ik in de aanloop naar de promotieceremonie met jullie beide in een reuze praktische, hilarische en deels verontrustende (nee, we doen echt geen dirndls aan!) groepsapp kon zitten. Carien en Esther, ik vind het fantastisch dat ik op 19 november met twee zulke dierbare vriendinnen aan mijn zijde de aula van het Academiegebouw zal betreden en ik verheug me mede daarom nog meer op deze bijzondere dag.

Curriculum Vitae

Curriculum Vitae

In 1997 behaalde Anke Herder (Delft, 1971) haar doctoraal Taalbeheersing aan de Rijksuniversiteit Groningen met als specialisatie Taalvaardigheidsontwikkeling in het onderwijs. Daarnaast heeft zij een tweede- en eerstegraads lesbevoegdheid Nederlands. Na deze studies werkte zij ruim twaalf jaar bij het Expertisecentrum taal, onderwijs en communicatie (Etoc) van de Rijksuniversiteit Groningen. Vanuit die organisatie begeleidde ze scholen voor primair en voortgezet onderwijs bij taalbeleidsontwikkeling, ontwikkelde zij lesmaterialen, heeft ze docenten en leerkrachten geschoold en getraind en onderzoek gedaan naar taalontwikkeling en taalstimulering in het onderwijs. Vervolgens werkte Anke ongeveer negen jaar bij NHL Stenden Hogeschool (Leeuwarden), als vakdidacticus bij de lerarenopleiding Nederlands en als onderzoeker bij het Lectoraat Taalgebruik en Leren (later: Meertaligheid en Geletterdheid). Als externe promovenda werkte zij van daaruit aan haar promotieonderzoek bij de Rijksuniversiteit Groningen (CLCG). Verder werkte Anke als onderzoeker bij de Groningse universiteit en was zij hoofdredacteur van de Landelijke Kennistoets Nederlands (tweedegraads lerarenopleidingen). Anke combineert haar werkzaamheden in onderwijs en onderzoek sinds 2011 met activiteiten als zelfstandig auteur en didactisch eindredacteur voor educatieve uitgeverijen, als schrijver van journalistieke artikelen voor onderwijstijdschriften, vormgever en poëzie-promotor vanuit haar onderneming Tekst, taal en educatie. Sinds 1 september werkt Anke als leerplanontwikkelaar/ vakexpert Nederlands vo bij SLO, het nationaal expertisecentrum leerplanontwikkeling.

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